



**VÂNIA SUSETE
MARQUES LOPES**

**PLANEAR E DESENVOLVER DESTINOS TURÍSTICO-
SUSTENTÁVEIS: O CASO DA ILHA DE CHIOS**

**PLANNING AND DEVELOPING SUSTAINABLE
TOURISM DESTINATIONS: THE CASE OF CHIOS'
ISLAND**



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ISLAND**

Dissertação apresentada à Universidade de Aveiro para cumprimento dos requisitos necessários à obtenção do grau de Mestre em Planeamento Regional e Urbano, realizada sob a orientação científica da Doutora Sara Margarida Moreno Pires, investigadora do Departamento de Ciências Sociais, Políticas e do Território da Universidade de Aveiro e sob a coorientação do Doutor Rui Augusto da Costa, professor auxiliar do Departamento de Economia, Gestão, Engenharia Industrial e Turismo da Universidade de Aveiro

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agradecimentos

Há dois anos, pedalava em direção ao Mestrado de Planeamento Regional e Urbano. Perguntava sucessivamente às pessoas se fazia sentido aliar o Planeamento à minha área de estudos, que é o Turismo. Para mim seria estudar as cidades, perceber como elas funcionam e que políticas podem ser aplicadas para as melhorar, a pensar não só no visitante, mas sobretudo na comunidade local. Passado todo este tempo, tenho a certeza que fiz a escolha acertada ao selecionar este Mestrado. Elaborei vários trabalhos académicos. Apresentei uma Discussão Pública e um trabalho numa Conferência Internacional. Participei no Programa Erasmus+. Expandi o meu conhecimento. Ganhei uma maior consciência política. Criei novas amizades. E vivi experiências incríveis. Obrigada a todos os que me acompanharam e fizeram parte desta minha etapa de crescimento e em particular:

À Doutora Sara Moreno Pires e ao Doutor Rui Costa, pelo rigor científico, disponibilidade e apoio. Por serem pessoas inspiradoras e por me ajudarem a fazer sempre melhor

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No ponto de vista mais pessoal, agradeço aos meus pais, pelo amor e dedicação em todos os momentos da minha vida. Por me terem transmitido valores de que me orgulho defender

Ao meu irmão, por ser um exemplo encorajador e de motivação para mim

Aos meus amigos, por estarem sempre presentes, mesmo alguns vivendo a quilómetros de distância

palavras-chave

desenvolvimento sustentável, planeamento e desenvolvimento turístico, turismo sustentável, definição de políticas e estratégias, Grécia, Chios

resumo

Desde a Revolução Industrial que o planeta está a enfrentar um momento de stress ambiental, razão pelo qual surgiu o conceito de desenvolvimento sustentável e uma nova Agenda com 17 Objetivos, a fim da sociedade tomar ações para uma melhor trajetória de desenvolvimento das nossas gerações. Esta problemática foi disseminada e o conceito de turismo sustentável foi oficializado. Apesar de terem sido realizados diversos estudos para compreender os impactos do turismo e sua relação com o desenvolvimento sustentável, há ainda carência de estratégias de desenvolvimento turístico-sustentável nos destinos turísticos.

Neste sentido, o principal objetivo desta dissertação é entender como o turismo pode contribuir ou prevenir ações que vão de encontro às trajetórias de desenvolvimento sustentável e propor um quadro de ações de planeamento para o desenvolvimento turístico-sustentável dos destinos turísticos e, particularmente, de Chios. A Ilha grega de Chios tem um potencial turístico diversificado, de que se destaca a produção de *mastiha*. No entanto, enfrenta vários desafios para se tornar um destino turístico-sustentável: um aeroporto de pequena capacidade; deficiências em infraestruturas e instalações de apoio ao setor; falta de cooperação entre os profissionais; fraca participação pública nos processos de decisão e falta de visão estratégica para o setor do turismo. Para a concretização deste objetivo, foi adotada uma metodologia baseada numa revisão de literatura através da análise de livros, estudos académicos, artigos científicos e documentos publicados por instituições e uma metodologia baseada numa abordagem de estudo de caso. A parte empírica foi desenvolvida através de vários procedimentos de recolha de dados e envolveu uma metodologia mista, combinando ferramentas qualitativas e quantitativas. As ferramentas qualitativas através de observação direta, em visitas a instalações turísticas, conversas informais com profissionais de turismo e uma apresentação participativa de propostas, durante um estágio no Município da Ilha de Chios. Além disso, foi aplicado posteriormente um questionário para os profissionais de turismo. As ferramentas quantitativas, para recolher dados sobre a caracterização da Ilha, fizeram-se através de pesquisas em fontes de informação científica, como em websites de dados estatísticos e em documentos locais.

Os resultados mostram que, para o planeamento e desenvolvimento turístico-sustentável dos destinos, os planeadores de turismo devem construir uma estratégia participativa e inclusiva, recolher indicadores durante o processo e envolver os vários atores. Chios é um destino com potencial de crescimento e aumento de competitividade e atratividade para visitantes, que beneficiariam com o estabelecimento de um plano estratégico participativo sustentável.

key-words

sustainable development, tourism planning and development, sustainable tourism development, definition of policies and strategies, Greece, Chios

abstract

Since Industrial Revolution, the planet is facing a moment of environmental stress reason why the sustainable development concept emerged, and a new Agenda was developed recently with 17th Goals for society to take actions towards a better development trajectory for our present and future generations. This problematic was disseminated to other sectors and sustainable tourism development concept was officialised. Despite several researches have been done to comprehend tourism impacts and its relationship with sustainable development, there is still a lack of worldwide examples of strategies for sustainable tourism development at tourism destinations.

In this sense, the main goal of this Dissertation is to understand how tourism can contribute to or prevent actions that erode sustainable development trajectories and propose a planning framework for the sustainable tourism development of tourism destinations and, particularly, Chios. The Greek Island of Chios has a diverse touristic potential such as the production of *mastiha*. However, it is a destination which faces several challenges, in order to become a sustainable tourism destination: a small capacity airport; deficiency in infrastructure and facilities supporting the sector; lack of cooperation between stakeholders; weak public participation in tourism related decision-making processes and a lack of shared vision and strategy for the tourism sector.

To accomplish such goal, the methodology is based on literature review through analysis of books, academic studies, scientific articles and journals and documents published by state institutions and it is also based on a case study approach. The empirical chapter involved a mixed methodology, combining both qualitative and quantitative tools. The first one, through direct observation, in visits to tourism facilities, informal conversations and a participative presentation of proposals carried out during an internship at the Municipality of the Greek Island of Chios. Besides, a questionnaire was developed to Chios' tourism professionals. The second one, to collect data about the Island's characterization, through several researches on various sources of scientific information, such as national statistical data websites and local documents.

The results show that, for sustainable tourism development planning, tourism policy-makers must build an inclusive and participatory strategy, starting by collect statistical data continuously and involving stakeholders into the process. Chios is a destination with potential growth and increased competitiveness and attractiveness for visitors that would benefit from the establishment of a participatory strategy plan and manage the sector while trying to support the sustainable development of the Island.

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LIST OF ACRONYMS

CBT	Community-based Tourism
DMO	Destination Management Organization
DMP	Destination Management Plan
EMAS	Eco Management and Audit Scheme
EU	European Union
GDP	Gross Domestic Product
GSTC	Global Sustainable Tourism Council
GVA	Gross Value Added
ISO	International Standards Organization
ISDRS	International Sustainable Development Research Society
LA21	Local Agenda 21
NAFZ	North Anatolian Fault Zone
SOS	Safe Operating Space
SIDS	Small Island Developing States
SDG	Sustainable Development Goals
SDTD	Sustainable Development Tourism Destination
TALC	Tourism Area Life Cycle
TDI	Tourism Development Index
UN	United Nations
UNEP	United Nations Environment Program
UNFCCC	United Nations Framework Convention on Climate Change
UNWTO	United Nations World Tourism Organization
USDA	United States Department of Agriculture
WAGS	West Anatolia Graben System
WCED	World Commission on Environment and Development

1. INTRODUCTION

1.1. INTRODUCTION TO THE THEME

During the last 11.000 years, the World's temperatures were in natural constant values, with very light changes. However, scientists believe temperatures raised faster and drastically since Industrial Revolution and mainly by human action (Steffen et al., 2009). In the decade of 1980, the sustainable development concept was officialised, and a new International Political Agenda with 17th Goals was created for all of us, as human and society members, to take actions towards a better development trajectory for our present and future generations. Worldwide scientists, researchers, politicians, academics and other public and private bodies have been discussing the solutions for the global environmental problem. Conferences and political negotiations, such as the United Nations (UN) Agenda 21, the Kyoto Protocol or later, the Paris Agreement have been conducted, and this problematic has been discussed and disseminated into various economic sectors such as tourism.

Tourism assumes a strong position in the development of worldwide territories. For the positive impacts it generates, it is used as a strategical sector to improve the economy (Turismo de Portugal, 2017) and generate wealth and well-being. However, the negative impacts are strongly visible, being considered a vehicle of green gas emissions through the transportation sector or a contributor to fossil fuel dependence (Stilwell, 2013). Besides the damages it causes to the environment, without proper planning, tourism translates into processes of gentrification (Gant, 2015), rise of land values (Mathieson & Wall, 1982), overcrowding and loss of traditional values. In Islands, the (negative and positive) impacts of tourism are even more critical than in continental regions, which reinforces the need for planning towards a sustainable future development.

As humanity is living in a period of global environmental change, with strong repercussions already visible due to our options of living, tourism can be a vehicle to achieve the sustainable development goals and contribute to move the World towards a sustainable development direction. However, a lack of successful strategies of sustainable tourism development are still a major concern and authors agree on the lack of guidelines to implement such strategies (Candiotta, 2009; Chan, 2010; Sharpley, 2010; Swarbrooke, 1999). Following this line of thought, in the World, there are only 9 certified regions, islands and islet classified as sustainable tourism development destinations (Tavares, 2017). In this sense, it is critical to discuss such problematic and contribute, through an academic work, with possible proposes for destinations and, particularly, for Chios' Island.

1.2. DISSERTATION GOALS AND STRUCTURE

This final work is intituled of “Planning and Developing Sustainable Tourism Destinations: The case of Chios’ Island” and intends to be a contribution for planning tourism destinations taking in consideration the 17th Sustainable Development Goals of the UN Agenda 2030 and using the Greek Island of Chios as a case study.

The main goal is to understand how tourism can contribute to or prevent actions that erode sustainable development trajectories and propose a planning framework for sustainable tourism development at destinations. Therefore, main goals of this research are:

- To discuss the concept of Sustainable Development and analyse the United Nations Agenda for Sustainable Development and its 17 Goals;
- To understand and outline the positive and negative impacts of tourism on territories;
- To discuss the Sustainable Tourism Development concept;
- To perceive the importance of tourism planning models for a sustainable tourism development;
- To structure the needed tools to plan sustainable tourism destinations;
- To analyse Chios’ context (supply and demand), with the input of local stakeholders;
- To contribute with a proposal to plan and take actions for sustainable tourism development of Chios’ Island.

Such goals are possible to be found in every section of this Dissertation (see Figure 1 for Dissertation structure). It is divided in 4 chapters, an introduction, a theoretical discussion, followed by a practical analysis and then the conclusions.

Chapter 2 is divided in two parts. The first part discusses the concept of Sustainable Development and provides a literature review on global environmental changes, causes and consequences, and on future actions towards a sustainable development of humanity, through the analysis of the UN 17th Goals Agenda. Sections 2.1, 2.2, 2.3 and 2.4 analyse the first basic goal of this Dissertation (discuss the concept of Sustainable Development and analyse the United Nations Agenda for Sustainable Development and its 17 Goals).

The Sustainable Tourism Development is the main theme of the second part of Chapter 2. It gives attention to the tourism activity and the impacts on territories and to the exercise of planning as a mechanism to manage destinations and develop them in a sustainable direction. Besides, a planning framework for tourism planners to use it as an inspiration to apply the concept of sustainable tourism development in destinations is also here proposed. In this part, four basic goals of the Dissertation are reflected (understand and outline the positive and negative impacts of tourism on territories; discuss the Sustainable Tourism Development concept; perceive the importance of tourism planning models for a sustainable tourism development and structure the needed tools to plan sustainable tourism destinations).

Chapter 3 is then focused on the case study of Chios' Greek Island, and it aims to characterize the social, political, economic, geographic and historic context of the Island, as well as the Island's resources and, the tourism supply and demand and propose a future framework for planning tourism sector in the Island. Basic goals announced for this Dissertation such as analyse Chios' context (supply and demand), with the input of local stakeholders and contribute with a proposal to plan and take actions for sustainable tourism development of Chios' Island were here discussed.

Finally, the Conclusions, summarize all the work developed and discuss the goals settled for this dissertation while addressing future research and practical steps for the tourism sector in Chios.

1.3. DISSERTATION METHODOLOGY

To accomplish such goals, the methodology is based on a literature review and on a case study approach (see Figure 2 for a summary of the steps). The literature review analysed books, academic studies, scientific articles and journals and documents published by state institutions, which address the theme and the area of study. The case study was based in several data collection procedures and it involved a mixed methodology, combining both qualitative and quantitative tools. The empirical research started with a three-month internship at the Department of Employment, Maritime Affairs and Tourism at the Municipality of Chios. This internship was developed between October and December 2017, by the framework of the Erasmus+ Program Internship. The aim of this internship was proposed by the Municipality of Chios and it concerned the draft of a Destination Management Plan (DMP) for the Island.

In order to be able to accomplish this goal, the internship involved a series of different steps. The first step started with a preliminary diagnostic phase researching about the destination of Chios on websites and consulting available official documents in English because the Greek language was an obstacle. In this sense, a list of thirty-one themes and core-indicators was selected to be collected, which is proposed on Figure 56 of Section 4.5. for the monitoring process of the proposed action-plan. These indicators were selected based on the sustainable development pillars and it is based on the concerns of future tourism impacts on the Island. For the limit time of the internship, it was not possible to collect it, but it had been crucial to understand which state of development the destination is and to perceive what is the direction to be taken. However, few available statistical information concerning tourism activity was founded: 1) tickets sold to access the museums; 2) hotels capacity; 3) arrivals; 4) overnights and 5) rate of occupancy.

Another step was to collect data through informal conversations to local tourism stakeholders such as 2 academic professional experts (one of them in the field of Tourism Management from the University of Aegean,

in Chios, Department of Business Administration and Postgraduate Program in “Tourism, Planning, Management and Policy”), 2 representatives of hotels and accommodation associations of the Island, 5 tour operators and 4 tourism management professional from the Department of Tourism of the north Aegean) and data was recorded in paper documents. The contact to these tourism professionals was selected concerning their presence on the Island at the moment of the internship and their availability to meet and discuss the Island’s tourism state. In this way, a total of 13 professionals were contacted.

Additionally, visits to tourism facilities were made to three hotels, the local thermal waters spa, an olive oil manufacturing industry, a winery and *souma* liquor production factory and the hiking trail “Fa-Lithi” with the presence of two professionals from Romania National Geographic. Such visits were selected to be done concerning the availability of the tourism professionals. Besides, some of the visits (such as the hiking trail and the manufacturing industries) were done through invitation of the North Aegean Region Department of Tourism. Another invitation from this Institution was the attendance on a marketing event they were organizing at the moment of the internship. It was a crucial opportunity to collect more details and information about the tourism activities provided in the Island and the stakeholders involved, which data was registered in paper documents. The event consisted in an afternoon program of presentation of the Island of Chios to tour operators of 14 nationalities from all over the World and it was presented on Chios Chandris Hotel by various Chios’ tourism professionals.

Then, a further step of the research was a preparatory phase to gather all the information collected to use it to define a first draft of a diagnosis of the tourism sector in the Island in order to prepare a vision and actions for the future plan and the draft of the strategy.

Another step was an initiative taken by the Municipality of Chios and it involved a presentation of the proposed draft strategy in a session with 7 tourism professionals. The Municipality contacted the professionals who participate at the informal conversations. Despite the involvement and interest of the local actors into the discussion, it was not possible to register in detail the stakeholder’s behaviours and attitudes towards the proposed actions for the Island’s tourism development, at the moment of the presentation. In this sense, when the internship finished, a questionnaire written in English language was prepared and all the data was analysed back in Portugal. This questionnaire was launched through the University of Aveiro platform in a later stage, in September 2018, to tourism professionals who contribute directly to the tourism value-chain, in a total of 99 entities of the Island but only 15% of the inquired answered. Such choice was made taken in consideration the Tourism Satellite Account from the National Statistics Institution of Portugal (INE) and adapted to Chios context. In this sense, the following professionals from these sectors were selected: 1) bus companies, airport, boats transportation; 2) hotels associations, hotels, hostel, apart-hotels and similar accommodations; 3) restaurants, bars and cafes; 4) departments of tourism, tourism office and university; 5) guided tours, activities in the water,

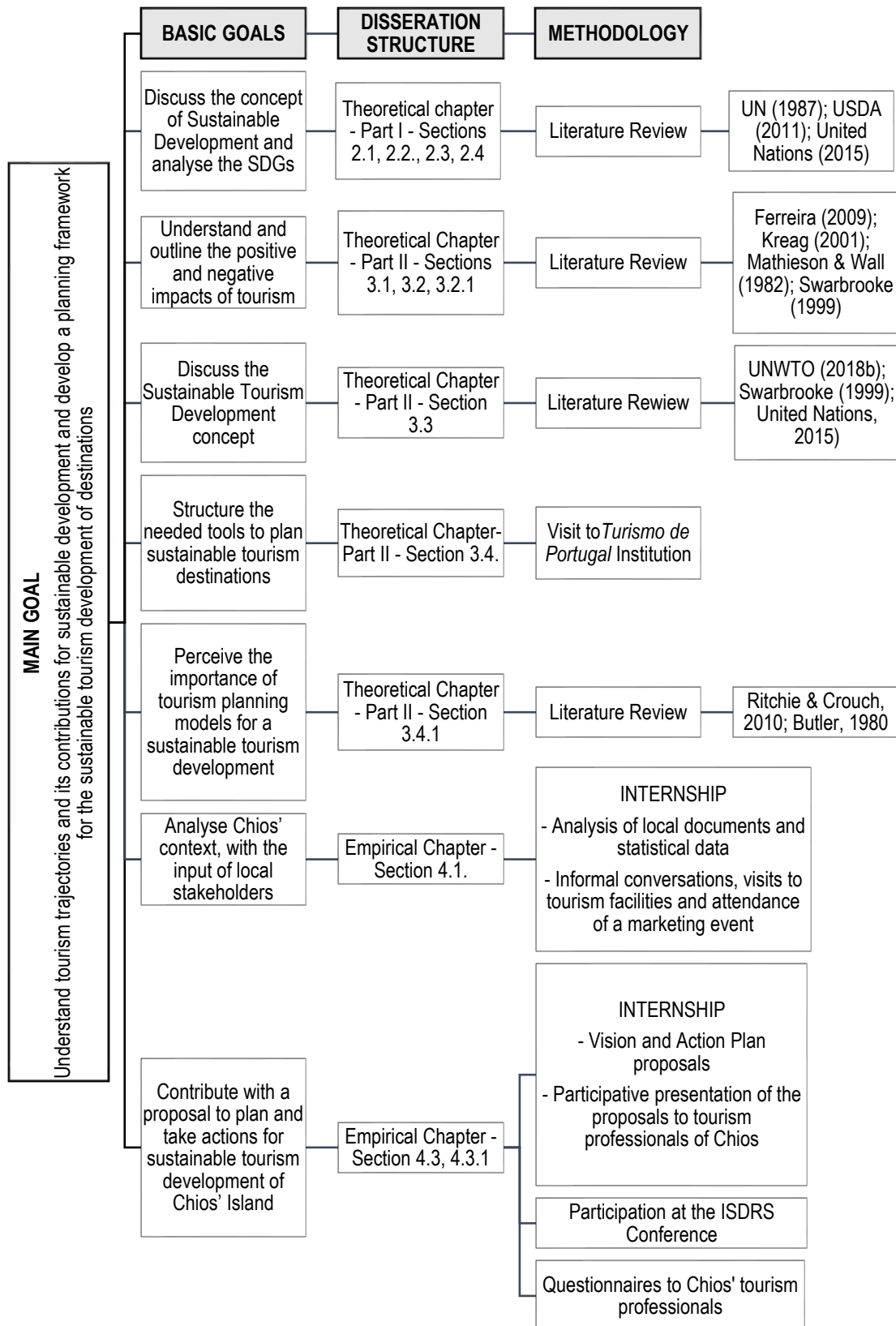
mountain activities, radical activities; 6) museum, archaeological assets, cultural institutions and 7) scooters, bikes, bicycles, cars and similar vehicles. Data was collected within the Lime Survey Platform, provided by the University of Aveiro where results were analysed through SPSS Program and tables were draw on Excel Program. A pre-test was done days before the questionnaire appliance and it was online for one month, between October to November of 2018.

Despite Chios being a Greek territory, in Portugal, it was also found useful to meet tourism professionals from the Institution *Turismo de Portugal* and have informal conversations in order to understand how the challenges of sustainable development have been integrated in political strategies in the country. Recently, the Institution adapted a national strategy concerning sustainability as a main topic, so this could serve as an inspiration for the draw of the planning framework and which tools are needed to plan towards a sustainable tourism development of destinations. The Institution was contacted via e-mail, they proposed a visit to the facilities and they selected which actors must be involved in these informal conversations. It consisted in a morning program-sections concerning the Department of Offer Valuation, the Department of Knowledge Management and the Training Department/ Pedagogical Management and Certification and it involved the consultation of six tourism professionals.

The participation at the 24th International Sustainable Development Research Society Conference “Action for a Sustainable World: From Theory to Practice” (ISDRS), in Messina, Italy, through the presence of the coordinator Sara Moreno Pires, allowed to have an international debate about the proposed ideas, through expertise wisdom on the proposals and be a vehicle of the topic dissemination. This participation was done through a power point oral presentation to worldwide professionals of the area of sustainable development and an abstract was written and, consequently, published on the proceeding’s manual of the Conference, with the title “A strategy for a sustainable tourism development of the Greek Island of Chios”.

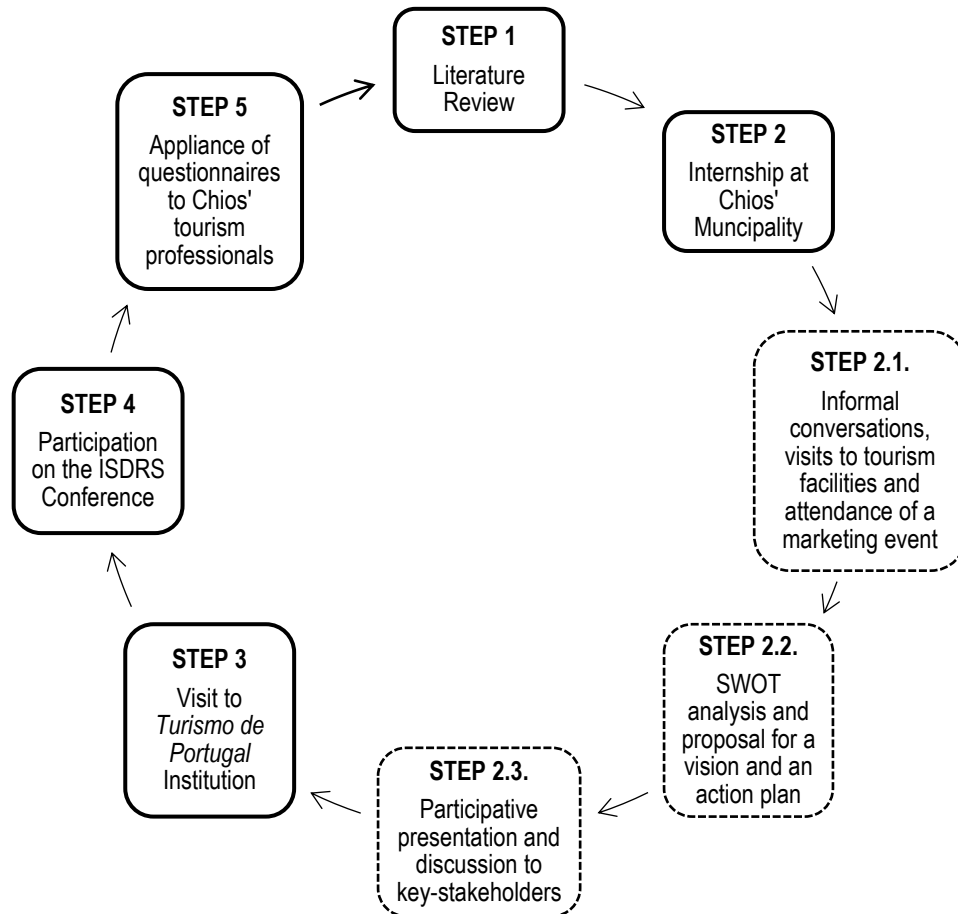
Finally, and associated to the graphic information provided in this Dissertation, some tools were used to map, as Arc GIS and Adobe Illustrator.

Figure 1. Dissertation goals, structure and methodology



Source: Author Elaboration

Figure 2. Stages of the final work



Source: Author Elaboration

PART I

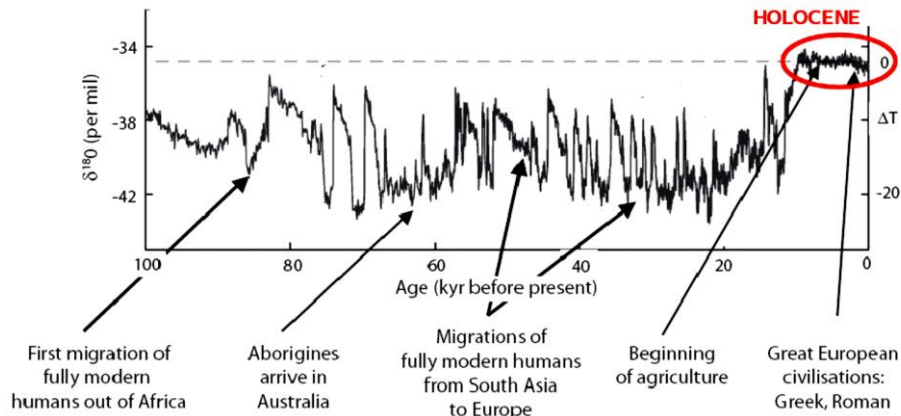
2. SUSTAINABLE DEVELOPMENT

Part I of the Theoretical Chapter aims to discuss the global environmental changes causes and consequences (Section 2.1.), the emergence of the sustainable development concept (Section 2.2.), the definition of such concept, according to the pillars (Section 2.3.) and reflect on the future actions towards a sustainable development of humanity, through the analysis of the UN 17th Goals Agenda as a direction for a global problem (Section 2.4.).

2.1. THE GLOBAL ENVIRONMENTAL CHANGE

During pre-historic times, human beings were constantly moving from a place to another in search of subsistence because the Earth's temperatures were on frequent natural modification. However, there was a period when Earth found a relative stability, also known by geologists as the Holocene (Figure 3).

Figure 3. Holocene Period



Source: (Steffen et al., 2009)

The Holocene was the era of human fixation, procreation, agriculture production that led to the development of Roman and Greek civilizations (Steffen et al., 2009). Since around 11.000 years ago, the World's temperature became relatively stable and warm, representing what the scientists call the "Safe Operating Space" (SOS) for humanity (Steffen et al., 2009).

Nevertheless, and according to Steffen et al. (2009), a new geological era had begun since the Industrial Revolution, called the Anthropocene, which is characterized by a global environmental change and a big

acceleration of the impacts of humans on the Earth stabilized system (Figure 4 shows some of those changes). For example, the atmospheric carbon dioxide concentration was registered in 280 parts per million, before Industrial Revolution, increasing to 406 parts per million nowadays (CO2.earth, 2018), exceeding far most than the Earth system can naturally absorb.

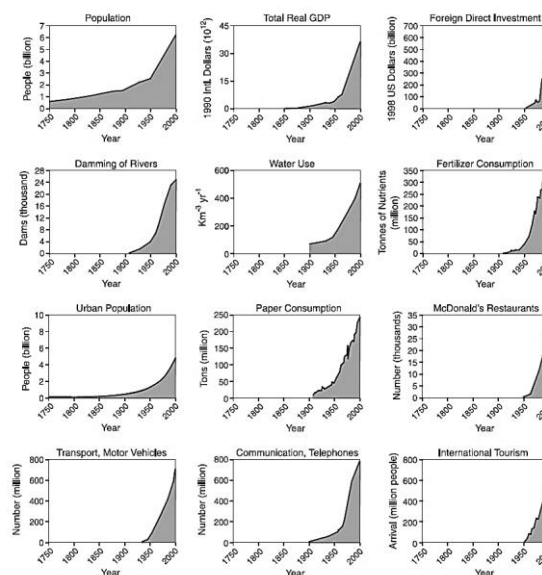
Figure 4. Earth system processes before and after Industrial Revolution and proposals

EARTH SYSTEM PROCESSES	PRE-INDUSTRIAL PERIOD	CURRENT STATUS	IDEAL VALUES
<i>Extinction rate (number of lost species – million species per year)</i>	0.1-1	>100	10
<i>Atmospheric carbon dioxide concentration (parts per million by volume)</i>	280	406	350

Source: Adapted from Steffen et al. (2009) and CO2.earth (2018)

In fact, Industrial Revolution brought the possibility of new electricity systems, innovative modes of mobility, an advanced way of agriculture production (and years after the Green Revolution) and changed the route of how societies live. The human activity suffered an evolution (Figure 5) and the effects of that are visible in the present century.

Figure 5. Human activity Evolution and the Great Acceleration Phase

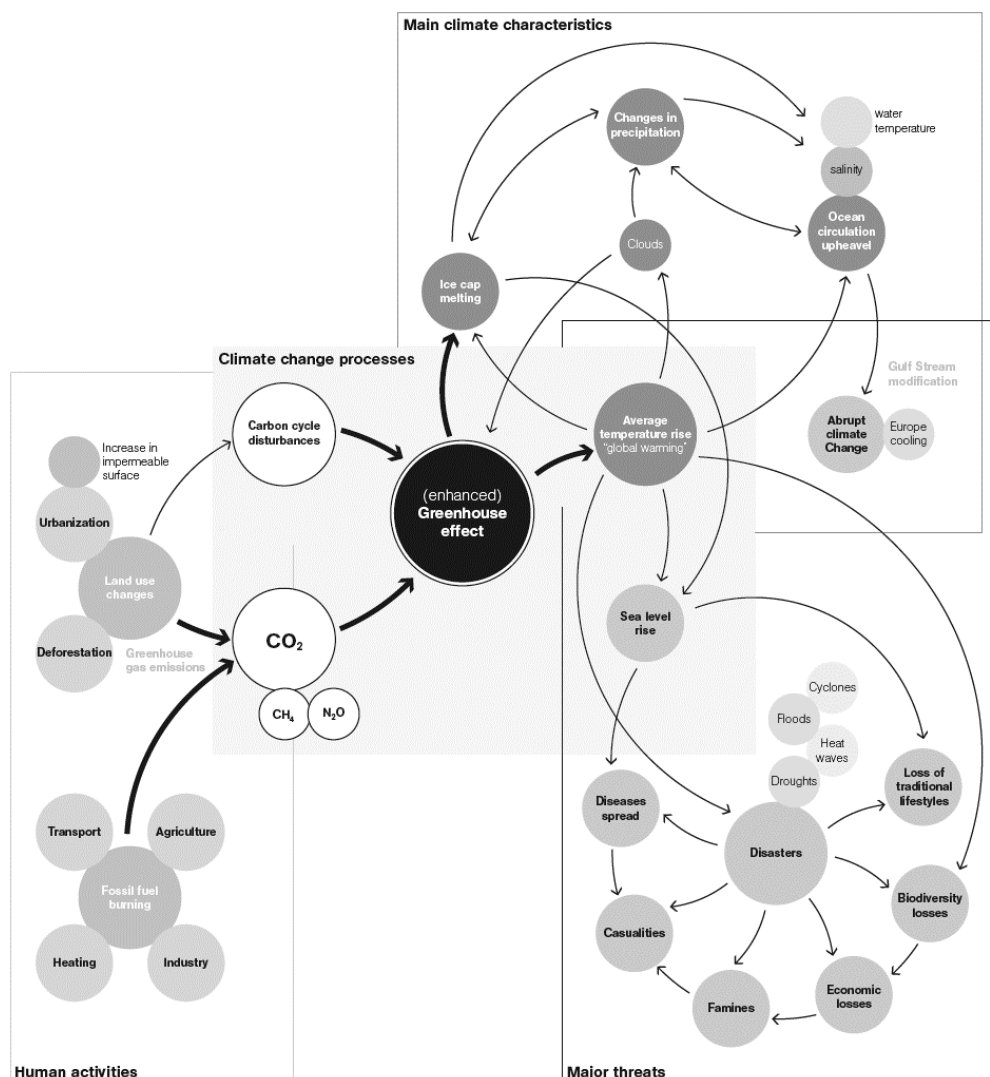


Source: (Steffen et al., 2004)

One of the main human activities introduced after Industrial Revolution was the burning of fossil fuels as coal, petroleum, natural gas and oil shale. Its rapidly dependence is announced as a main driver of the accelerated Earth's temperature that can damage the systems and be irreversible for all the humanity (Steffen et al., 2009).

However, the dependence on fossil fuels is not the only cause of such change. Together with an exponential growth of the human population, a weak land use management and planning and unsustainable waste generation are pointed out as other strong causes (Stilwell, 2013). Globalization made people consume even more and researchers affirm we are using the equivalent to 5, 6 or even 10 planets (Stilwell, 2013). Regarding food consumption patterns, a recent study refers Portugal as the highest European Union (EU) fish consumer and the third in the World (61.5kg per head per year) (EU SCIENCE HUB, 2018), comparing to Spain (46,2 Kg), Lithuania (44,7 Kg), France (34,4 Kg) and Sweden (33,2 Kg) (Tomás, 2018). Moreover, in most of the cases, natural ecosystems are converted into agriculture or urban areas, invasive species are introduced in different land and freshwater environments and processes of deforestation are some of the examples of the causes which increases Carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O) emissions and drive them into the atmosphere, causing a stronger greenhouse effect. International Labour Conference (2013) refers that between 1970 and 2005 the rate of greenhouse gases sent to the atmosphere because of human activity grew more than 70%. In 2011, it was register that developed countries were characterized by a big number of greenhouses gases emission per inhabitant with a rate of 10 times more than the average of the developing countries (International Labour Conference, 2013). This situation leads to the loss of ice sheets and a consequent accelerated sea level rise, ocean acidification and other impacts that modify the waters' temperature and changes in precipitation which may lead to acid rains (Figure 6). According to it, climate change processes may lead to more frequent and stronger natural disasters as droughts, heat waves, floods and cyclones which will have a clear damage on the traditional lifestyles of societies. As an example, it can cause the destruction of plantations and settlements (UCN et al., 1980); pollution and loss of coastal support systems of fisheries (UCN et al., 1980); disappearance of forests, lakes and heritage of the countries (UN, 1987) and a massive acceleration of species extinction (Steffen et al., 2009).

Figure 6. The Anthropocene Era - Causes and Consequences of Climate Change

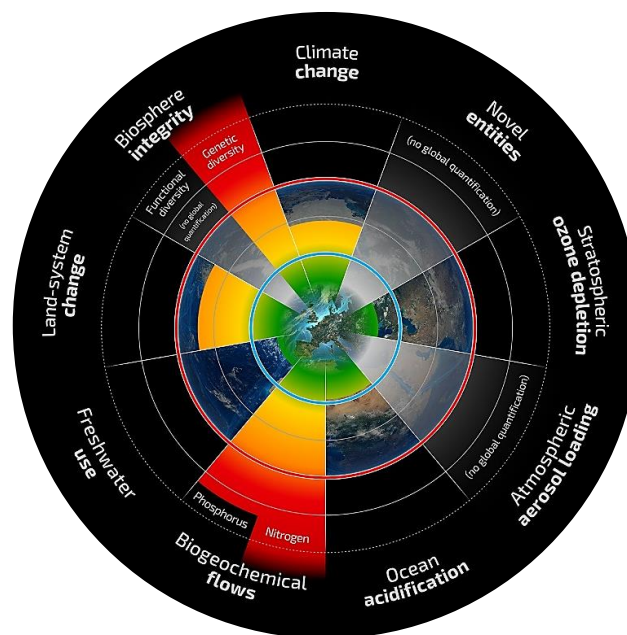


Source: (Rekacewicz, Bournay, & UNEP/GRID-Arendal, 2005) - "Climate change: processes, characteristics and threats" <<http://www.grida.no/resources/6889>> (Accessed 5 July 2018)

Currently, some announced problems can be already visible with the millions of hectares of forests destroyed every year. In Small Island Developing States (SIDS), Asia, Latin America and African countries, these announced consequences have even more catastrophic effects, mainly for its scarcity of technology resources, information and a weak economy development. UNFCCC (2007: p.20) states that "one third of African people already live in drought- prone areas and 220 million are exposed to drought each year" [...] and by the year of 2020, up to 250 million people in Africa could be exposed to greater risk of water stress. Himalayas and Andes population will face in this century a big risk of flooding and Small Island Developing States (SIDS) are in risk of complete flood (UNFCCC, 2007).

Facing all of these problematic issues due to global environmental change, Steffen et al. (2009) outlined nine environmental processes which need to be limited: 1) climate change; 2) ocean acidification; 3) stratospheric ozone depletion; 4) interference with the nitrogen and phosphorus cycles; 5) global fresh water use; 6) change in land use; 7) rate of biodiversity loss (terrestrial and marine); 8) atmospheric aerosol loading and 9) other entities (e.g. chemical pollution) (Figure 7).

Figure 7. Safe Operating Space and planet boundaries



Source: (Steffen et al., 2015) – “Planetary boundaries – A safe operating space for humanity”
<https://www.stockholmresilience.org/research/research-news/2015-01-15-planetary-boundaries---an-update.html> (Accessed 4 September 2018)

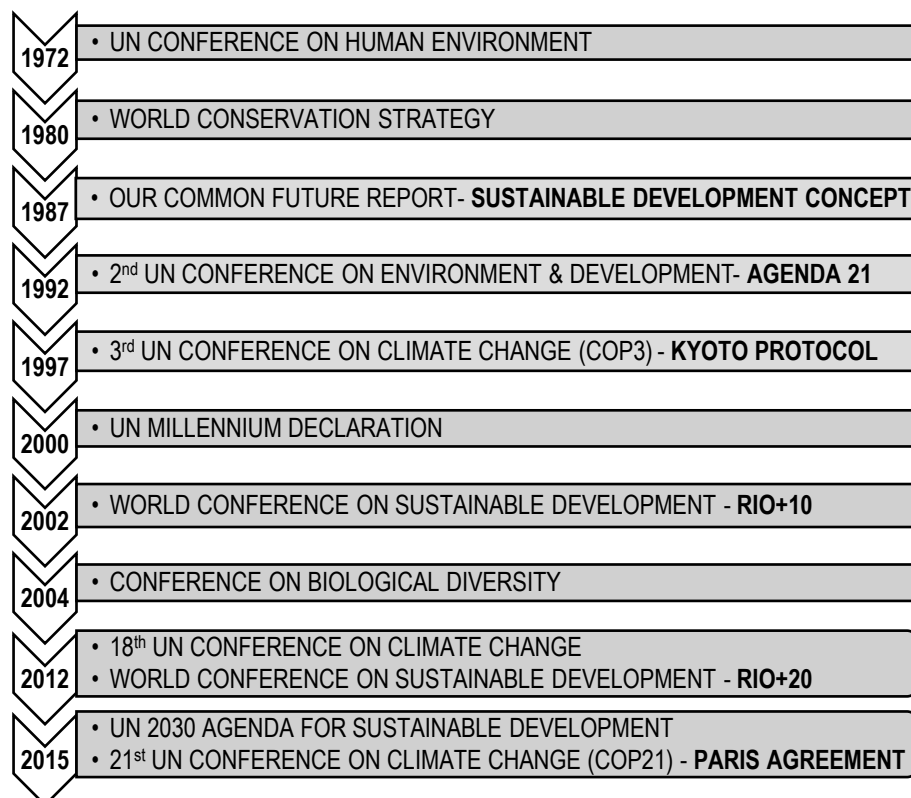
According to Figure 7, the green circle represents the SOS for humanity that we should aim to preserve. This is the ideal zone where we used to be in the past, as announced before. On the opposite, the red colour shows the limits which were already surpassed. The image represents that climate change, rate of biodiversity loss and interference with the nitrogen cycle has been transgressed the safe zone by human activities and experts affirm it will probably increase in the following years.

In short, humanity is living a moment of environmental stress with drastic repercussions already visible, due to our living options, such as our strong dependence on fossil fuels, weak land use management and planning, unsustainable waste generation and exaggerated food consumption (mainly meat and fish). In this way, it is crucial to recognize our responsibility and act towards a better future of our lives on Planet Earth.

2.2. THE CONCEPT OF SUSTAINABLE DEVELOPMENT

For many years, experts have been reflecting on the global environmental change effects and various studies have been undertaken towards sustainability (Figure 8). Thomas Malthus was the first economist who alerted the limits of human growth due to the scarcity of resources, on his Theory of Population, in 1803. On the year of 1968, The Club of Rome joined scientists, economists, politics and world associations with the goal of promoting the economic stability. Even though Malthus' prediction was failure due to the technology evolution, the Report "The Limits to Growth" created by The Club of Rome also prevents the same situation for the year of 2100 (Donella et al., 1972). In 1972, the United Nations joined for the first Conference on Human Environment in Stockholm and stressed the importance of management and protection of natural resources (United Nations, 1972): *"The natural resources of the earth, including the air, water, land, flora and fauna and especially representative samples of natural ecosystems, must be safeguarded for the benefit of present and future generations through careful planning or management, as appropriate."* In 1980, the World Conservation Strategy provided concrete actions to manage these living resources and be considered a guidance for political decision-makers, environmentalists, industry, commerce and agencies.

Figure 8. World Political Agenda on Sustainable Development: most important marks



Source: Author Elaboration

However, the concept of sustainable development was only officialised by the Report 'Our Common Future' in 1987 (UN, 1987):

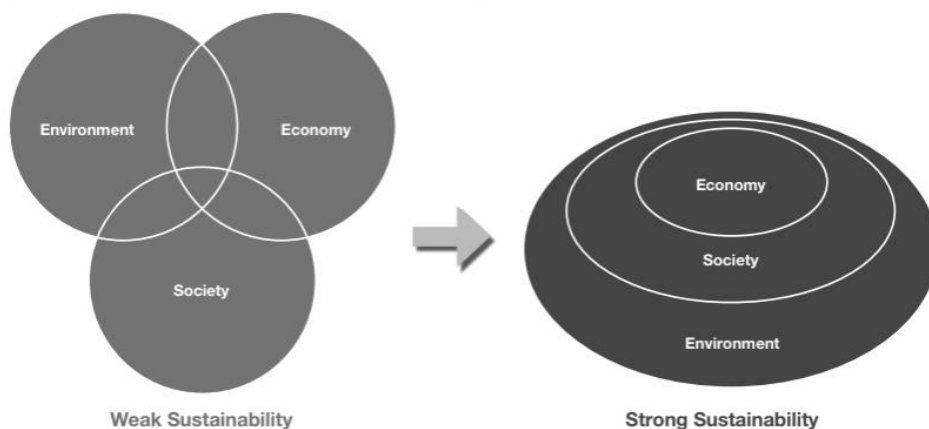
"Humanity has the ability to make development sustainable to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs" [...] sustainable development requires meeting the basic needs of all and extending to all the opportunity to fulfil their aspirations for a better life" (p.15).

With establishment of the concept, the idea of saving and managing the territory resources was reinforced and humanity could finally see it as a direction for a future path. However, more than 30 years after the formalisation of this concept, discussions go on, on how to operationalize and realise this humanity vision, as we debate in the next sections.

2.3. THE PILLARS OF SUSTAINABLE DEVELOPMENT

Even though, there is already recent studies that have been undertaken towards the existence of other pillars concerning sustainability such as the pillar of technology and innovation or governance (Clune and Zehnder with "The Three Pillars of Sustainability Framework: Approaches for Laws and Governance" in 2018), sustainable development concept can be analysed as a system, distinguished in three main dimensions: the environment, society and economy (Figure 9).

Figure 9. The three pillars of Sustainable Development



Source: (USDA, 2011)

The idea of three different and separate pillars intersecting each other (visible on the left-side scheme) is an early thinking of sustainability. On the opposite position, there is the more recent approach to sustainable development (visible on the right-side scheme), showing an interaction of the three pillars and giving priority to the environmental dimension. This approach model creates awareness for foundation of sustainability based on environmental realm because the environment provides services and natural goods which are unique and irreplaceable (USDA, 2011) and for this reason, actions for an environmental protection should be decided in the first place, rather than giving prior attention to economy or society.

A system is something even more than just a totalization of its parts. It requires interaction of the components (environment, society and economy) to result in interconnection. In this way, to assume that a certain territory is sustainable, there must be an interrelation between all the components announced on the Figure 6, which is difficult to define. As an example, a country which implement political actions to progress production, by building factories, in theory, is fighting in direction of a social and economic development, because it improves manufacturing in the country and creates employment. On the other hand, the factories create environmental negative impacts, as pollution or natural resources consumption. In this case, these policy options seem more contradictory than supportive of sustainable development.

To reinforce the idea of complexity of the system, the concept also varies according to cultures. For instance, implementing an antenna of wind energy can be favourable for the environmental point of view but implies expenses which can be unsustainable for some developing countries as Africa or Latin America.

Briefly, taking actions towards sustainability is complex because the interaction of many areas gives origin to behaviours and patterns which are not easy to distinguish.

2.4. THE GOALS OF SUSTAINABLE DEVELOPMENT

Despite the large world political agenda on global environmental change and sustainable development, as referred on section 2.2., only with the recent approval of the UN 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals (SDG) (United Nations, 2015) the countries have assumed a clear position and pulverised the meaning of sustainable development and associated challenges (Figure 10).

Figure 10. Sustainable Development Goals of the UN 2030 Agenda



Source: (United Nations, 2015) – “Sustainable Development Goals”
<<https://sustainabledevelopment.un.org/sdgs>> (Accessed 4 February, 2018)

The UN 2030 Agenda for Sustainable Development intends to stimulate the action of societies and political decision-makers for a period of 15 years, the reason why 17 goals and 169 targets were established. The first three goals of this Agenda are related with poverty, hunger and health. Naturally, to finish extreme poverty (measured as people living with less than a \$1,25 a day) is the proposed objective. Additionally, guarantee their access for basic services and adequate agricultural production is other goal to be taken, as well as end with diseases as AIDS and Malaria.

Education is the fourth goal of sustainable development. Qualify people, upgrade education facilities and assure equal and free study opportunities are some of the ambitions of such Agenda.

Goal number five is associated with law reinforcement on gender equality, to finish forced marriage and genital mutilation practices.

Water and energy must be clean and affordable to everyone, on the perspective of United Nations sixth goal. For that, governments need to apply policies to reduce pollution, eliminate dumping and minimize the release of chemicals and materials to the water-related ecosystems, including mountains, forests, aquifers, rivers and lakes. And they must develop sustainable energy services in all countries, especially in the last developed countries and on the SIDS (goal seven).

The focus of the eight goal is economy growth. Governments are asked to apply policies to incite the formalization of new companies (and reduce the unemployment rate), to reinforce law which eliminate forced labour- work and human traffic, including child labour and promote, in this way, safe and secure working conditions and environments.

The ninth goal concerns innovation and industrialization. It aims to provide affordable access to internet for all as well as to increase the access to information, by inciting scientific research.

Reduce inequalities is the tenth goal. United Nations intend to promote social, economic and political inclusion for all as well as equal opportunities and facilitate safe and responsive migration and mobility of people.

The eleven goal is exclusively devoted to cities. Adequate, safe and affordable housing for all (and upgrade the slums) is the first target. About transportation, UN suggests the improvement of streets, especially for the access of disable people, expansion of public transport, provide affordable transport system and control air pollution. And, protect the world cultural heritage.

Consumption and production patterns are the twelfth goal of sustainable development. The aim is to manage efficiently the use of natural resources, reducing food losses through recycling and reuse and encourage companies for sustainable practices.

The goal thirteen is about climate change and its impacts. United Nations (2015) incite countries to integrate climate change measures into national policies, strategies and planning.

The goal fourteenth is related with conservation of the oceans, seas and marine resources. Countries should compromise till the year of 2025 to reduce marine pollution and other adverse impacts, in attention to the land-based activities pollution to the marines. Minimize the impacts of ocean acidification and prohibit the overfishing.

Promote sustainable use of the territorial ecosystems is the fifteenth goal of the 2030 Agenda. Combat desertification; reduce the degradation of natural habitats; protect threatened species and prevent their extinction and prohibit traffic of flora and fauna species are some of the targets.

The sixteenth goal is about building inclusive and non-violence societies. In this way, UN claims for the reduction of all forms of violence and death rates everywhere, especially to children; provide legal identity to all; ensure inclusive and participatory decision-making at all levels. Promote non-discriminatory laws and create transparent and effective institutions.

The last goal serves to reinforce the concretization of all goals through partnerships and it is divided into 5 general topics: finance, technology, capacity-building, trade and systemic issues and its sub-topics: policy and institutional coherence, multi-stakeholder partnerships and "data, monitory and accountability".

This Agenda is considered a crucial tool to be used by political decision-makers but also by all the members of our society and must be seen as a vehicle to change our behaviour and move towards a sustainable future.

PART II

3. SUSTAINABLE TOURISM DEVELOPMENT

Part II of the Theoretical Chapter is related with Sustainable Tourism Development concept. It gives attention to the tourism activity evolution (Section 3.1.) and its positive and negative impacts on the society and culture, economy and environment of territories (Section 3.2.). Also, the impacts on a specific territory, the Islands (Section 3.2.1.). Furthermore, the emergence of the concept of sustainable tourism development (Section 3.3.) and the exercise of planning as a mechanism to manage destinations and develop them in a sustainable direction (Section 3.4.). It also focuses on the DMP as a crucial instrument of planning as well as other instruments. Besides, the models of sustainable development which analysis the difficulty of the concept appliance in practice (Section 3.4.1.) and the existent sustainable tourism development labels (Section 3.4.2.). Finally, this part finishes with a proposal planning general framework with thirty-one actions, exemplified as an inspiration for tourism policy- makers to apply at destinations (Section 3.4.3.).

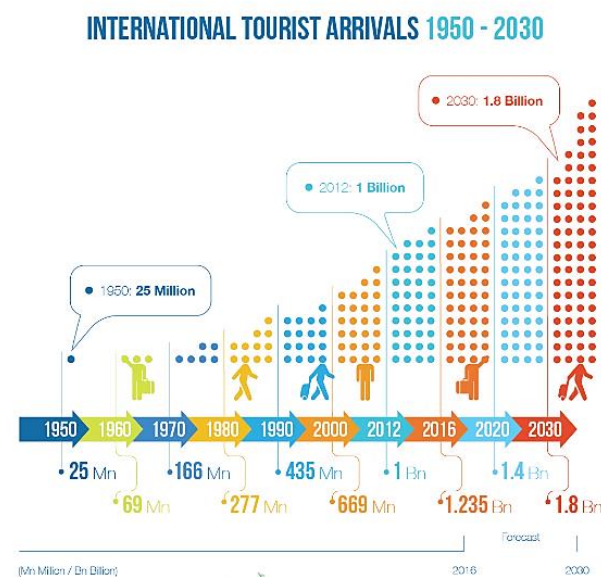
3.1. HISTORICAL CONTEXT OF TOURISM ACTIVITY

Mathieson and Wall (1982) assumes that “tourism is the temporary movement of people to destinations outside their normal places of work and residence, the activities undertaken during their stay in those destinations, and the facilities created to cater to their needs” (p.1). They also refer that tourism is the study of people away from their home, the requirement of the travellers and the impacts on the temporary host destination (Mathieson & Wall, 1982). Many authors have difficulties in defining such concept and there is not a consensus, although there is a consensus on its evolution.

Though the years, tourism suffered an accelerated growth (Figure 11). The evolution of tourism was always affected by numerous components. In fact, through time, tourism was affected in supply and demand, according to different historical episodes such as the Glorious 20's, Soviet Union Dissolution or the European Union creation (Vieira, 2016). It was considered, for a long time, as a leisure activity and only in recent stage it was seen as a social agent of societies' development (Marujo & Carvalho, 2015 in Marujo, 2008). The emphasis on tourism as a culture experience can be chronologically described since the ancient Greece and Rome elites to the creation of spas and the emergence of the Grand Tours in 17th and 18th centuries (Towner, 1995). The Grand tours was an historical episode when tourism was identified as we know. It is characterized as a period of young male students travelling to different countries in Europe, being Italy the apogee of such cultural experience. The Industrial Revolution privileged the industry of tourism with the expansion of the railways and the development of transports. The 19th century is the origin and the spread of the seaside resorts and mass

holiday packages by Thomas Cook agency (Towner, 1995). So geographically, people start to travel outwards from its origin in Britain and Western Europe. The diminishing of transports' costs, women entering in the job market or the decreased number of children per couple are some of the causes to explain how most of all social classes of society started to have possibilities to travel and experience the same level of culture experiences. From the 1950/1960's, a nascent tourism industry began to introduce packaged summer holidays to the mass markets of northern Europe and resorts on the Spanish 'Costas' (Sharpley, 2010 in Barke et al., 1996). And this is the exact period of rapid growth of international mass tourism (Sharpley, 2010).

Figure 11. International Tourist Arrivals Timeline 1950-2030



Source: (UNWTO, 2017) - "International Tourism Timeline 1950-2030"
 <<http://media.unwto.org/content/international-tourism-timeline-1950-2030>> (Accessed 21 July 2018)

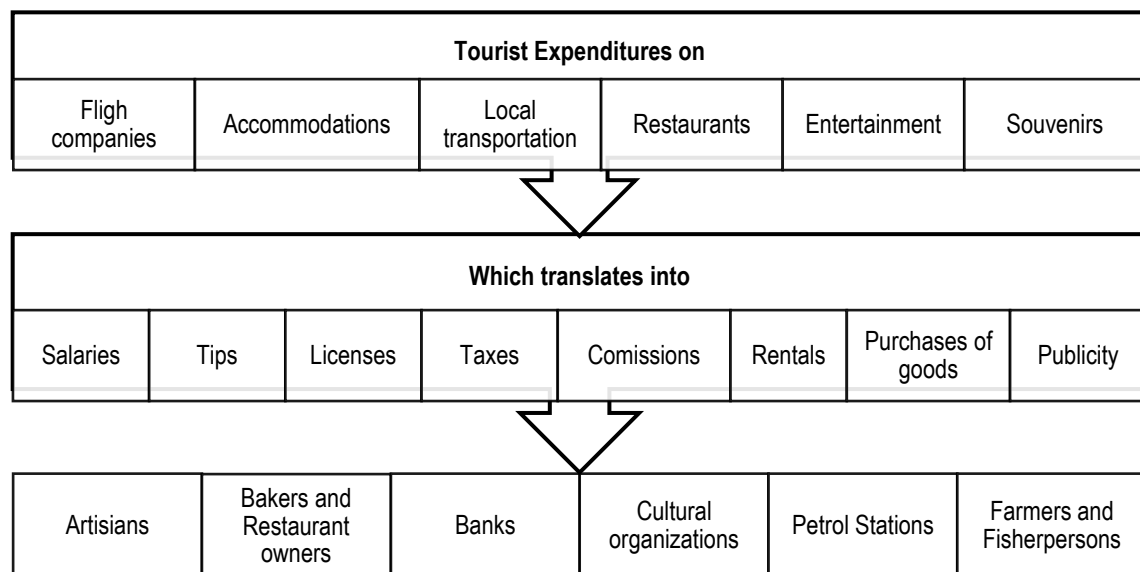
Currently, more than 70 countries receive over one million international tourists annually (Sharpley, 2010). UNWTO (2018a) estimated a growth of 7% of the international tourist arrivals worldwide from 2016 to 2017 and, according to Figure 11, tourism will grow in 1.8 billion arrivals in 2030. The sector contributes to more than 10% of the world Gross Domestic Product (GDP) and to the growth of worldwide employment (WTTC, 2018). And for its recognition as a positive impact to the worldwide economy, tourism was recognized as an industry, englobing various sectors and activities.

In this sense, we can assume that tourism changed in definition. It is considered as a sector of the economy, contributing to income and has been growing faster in the recent years, with prediction to growth even more in the following period.

3.2. THE IMPACTS OF TOURISM

Tourism activities have the potential to generate positive impacts on the economy of territories, as announced before, for its multiplier effect (Figure 12). Many governmental strategies target tourism as an agent of development, helping to improve economy and to explore the economic benefits that it promotes (Sharpley, 2009). As an example, Portugal used the sector as a factor of social and economic development, through employment and exportation (Turismo de Portugal, 2017). In Greece, and according to Smith (2017), tourism (with exception of shipping) is the basis sector of the economy which passed through a crisis since 2009.

Figure 12. The multiplier Effect of Tourism



Source: Adapted from Swarbrooke (1999)

As it is possible to see on Figure 12, tourism is a fragmented and complex activity involving different sectors, equipment, transports and infrastructures (Cordeiro, 2008). Tourist expenditures are very important for the economic development of territories, precisely for affecting those different sectors. This means that every pound, dollar or euro spent by the tourist circulates around the local economy and throughout all community, even to those who are indirectly connected with the tourism industry, as farmers and fisherpersons

(Swarbrooke, 1999). Mathieson and Wall (1982) enumerates three different types of influence of tourist expenditures: the direct spending; the indirect spending and the induced spending. The first is the revenues on hoteliers, flight companies and restaurants, for example. The second is the effects of these revenues on the salary payments and the replenishing of stocks of tourism businesses. Finally, the induced spending, considered as a third effect of the tourism revenues into other workers of different sectors of the destination.

Although the economic benefits that tourism promotes and their multiplier effects, there are some negative impacts to consider as well (Figure 13). The profit it generates in a certain territory is usually concentrated on entrepreneurs and investors in the sector, sometimes international actors, while the less disadvantaged layers of the population do not enjoy the same level of benefits (Candiotta, 2009). Akama (2000) argues that residents of destinations receive insignificant direct monetary benefits from tourism. To sustain this idea, 2003 UNEP report states that 80% of tourism revenues in Caribbean flowed to hotels, tourism accommodations and flight companies (Choi & Sirakaya, 2005). And, in most of the cases, tourism jobs are precarious and with low salaries (Figure 13).

Figure 13. Economic Impact of Tourism

POSITIVE	NEGATIVE
<ul style="list-style-type: none"> ▪ Employment ▪ New business opportunities ▪ Income (through multiplier effect) ▪ Regeneration and restructuring of towns and cities economies ▪ Stimulates investments 	<ul style="list-style-type: none"> ▪ Precarious, seasonal and low wages jobs ▪ Over-dependence on tourism ▪ Price rise ▪ Investment on expensive infrastructure ▪ Land values increase ▪ Property speculation

Source: Author Elaboration (Ferreira, 2009; Kreag, 2001; Mathieson & Wall, 1982; Neto, 2011 in Vieira, 1997; Swarbrooke, 1999)

Moreover, property speculation has been induced as consequence of tourism growth. In many destinations, tourism growth creates demand for land from landowners and real estate agents, in order to build hotels, vacation homes and tourism facilities and it also creates competition which leads to the rise land values (Mathieson & Wall, 1982). Even though, in many cases this situation creates a positive impact by regenerating, for instance, old buildings in historical centres, especially by private initiative, prices rise and create an argument related with gentrification processes¹ (Gant, 2015). House owners rent city centre houses with unaffordable prices for local community and accessible prices to tourists. Cities such as Porto, Venice or Barcelona have been recently the centre of discussion of such controversy.

¹ Gant (2015) defines gentrification as a “[...] process in which middle class residents move into working class areas, resulting in the displacement and exclusion of the indigenous communities” (p.2). This social-spatial change can be provoked by tourism and be interpreted as tourism gentrification in which neighbourhoods are transformed according to the needs of affluent consumers, residents and visitors alike.

Shortly, tourism activities can be positive in various ways but can also create negatives impacts on the environment (Figure 14) and societies (Figure 15), providing different trends and impacts towards the sustainable development goals, mentioned on section 2.4.

Figure 14. Environmental Impacts of Tourism

POSITIVE	NEGATIVE
<ul style="list-style-type: none"> ▪ Natural resources protection and appreciation ▪ Creation of natural reserves ▪ Re-use of disused buildings ▪ New architectural styles ▪ Infrastructure upgrading 	<ul style="list-style-type: none"> ▪ Kill animals in hunting activities to supply goods for souvenirs ▪ Migration of animals ▪ Overfishing ▪ Water pollution through discharges on the sewage ▪ Deficiency on water supplies and water consumption ▪ Air pollution from vehicles and lightning systems ▪ Sound pollution ▪ Visual pollution (buildings, car parks, trash, algal) ▪ Food consumption and food waste ▪ Waste production ▪ Loss of nature and open spaces ▪ Deterioration of cliffs, caves and other geological element of nature ▪ Increases risk of erosion and avalanches ▪ Dependence of fossil fuels to support tourism activities ▪ CO2 emissions

Source: Author Elaboration (Ferreira, 2009; Kreag, 2001; Mathieson & Wall, 1982; Neto, 2011 in Vieira, 1997; Swarbrooke, 1999)

Although, in various cases, natural reservoirs and nature sites are converted into protected areas and are inserted into land use plans of territories, some of them become environmental attractions and are privatized to respond to the tourism demand, not being accessible to everyone who cannot afford it and not providing the same equal opportunities that sustainable development goal 10 claims for.

Furthermore, tourism activities were estimated to contribute up to 5 per cent of global anthropogenic greenhouse gas emissions, with transport accounting for about 75 per cent (Stilwell, 2013) and aviation as the main contributor to global warming (Stilwell, 2013; UNWTO & UNEP, 2005). In the UN Agenda 21, the transportation was already announced as an essential sector which had to better planned and managed to reduce pollution (UNCED, 1992):

“The transport sector has an essential and positive role to play in economic and social development, and transportation needs will undoubtedly increase. However, since the transport sector is also a source of atmospheric emissions, there is need for a review of existing transport systems and for more effective design and management of traffic and transport systems” (p.79).

Food consumption and food waste can also be seen as consequences of tourism with a negative impact visible at destinations. In the little Spanish town of Buñol, there is the world annual famous tomato fight which started around the end of World War II (TAPP, 2017). The fulfilment of such tradition calls into attention SDG 2, being the festival considered as an affront to millions of people who are food-deprived.

Figure 15. Social and Cultural Impacts of Tourism

POSITIVE	NEGATIVE
<ul style="list-style-type: none"> ▪ Reduces depopulation ▪ Culture exchange ▪ Conservation of costumes and traditional languages ▪ Restauration and preservation of monuments and historical sites ▪ Increases religion respect by tourists ▪ Infrastructures and mobility system improvement ▪ Rise of communities' self-esteem ▪ Progress on security systems ▪ New markets of traditional crafts and re-born of traditional art forms ▪ Tourists positive values and behaviours influences host communities ▪ Increases quality of museums 	<ul style="list-style-type: none"> ▪ Creation of non-traditional architectonical buildings ▪ Conflicts between cultures ▪ Overcrowding places ▪ Material heritage degradation ▪ New eating habits such as fast food ▪ Social stratification and modification ▪ Traffic congestion ▪ Increases crime ▪ Fake culture sense ▪ Communities' alienation over planning ▪ Pressure on local languages ▪ Loss of control on the commercialization of local resources ▪ Social degradation

Source: Author Elaboration (Ferreira, 2009; Kreag, 2001; Mathieson & Wall, 1982; Neto, 2011 in Vieira, 1997; Swarbrooke, 1999)

Overcrowding places are another social and environmental problem associated to tourism. Despite improving community's self-esteem and providing a culture exchange, tourism can cause social modification and conflicts. It can also cause a fake culture sense towards local community, through the creation of non-traditional architectonical buildings and introduction of new habits. An example of overcrowding is the study carried out by a civil movement “O Porto Não Se Vende”, in Porto, which shows the existence of 4411 local accommodation situated in the historical centre of the city which, if full of tourists, would represent a number of 20.123 tourists, the half of population in that area (40.440), without counting hotels which will be 98 buildings more (Pinto, 2018). For instance, Barcelona received last year 32 million visitors, 20 times the resident population and this sheer

volume of visitors is driving up rents and pushing residents out of neighbourhoods, and overwhelming the public space (Burgen, 2018).

In brief, tourism has a major economic, social and environment significance in regenerating buildings, protecting natural resources and improving community self-esteem. However, the negative impacts can be destructible for the destination by contributing to overcrowding and property speculation issues, to a fake culture sense, to the green gas emissions and, consequently, to the global environmental changes societies are living.

3.2.1. THE IMPACTS OF TOURISM ON ISLANDS

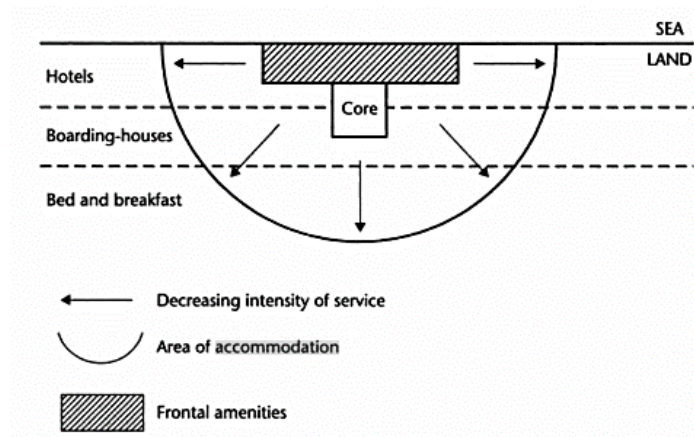
In a general way, Islands transmit a positive imagine to the visitor, since they represent a state of isolation (Cordeiro, 2008 in Tourtellot, 2000b) and contribute to a sense of routine breakdown. For those reasons, these territories are chosen as elected holidays destinations for various families.

Tourism can induce negative impacts in Islands, even more critical than in continental regions. Even though, it can contribute to the progress of community standards of living by improving infrastructures and stimulating market activities, Styliadis et al. (2007) confers that in some cases the focus of tourism sector is only for seasonal tourism and this result in seasonal (un)employment. Besides, Islands are considered as vulnerable territories for carrying resource limitations, such as water and pollution control (UNEP & ICLEI, 2003).

Furthermore, Islands suffer irreversible environmental problems. As an example, the Tai Maya Bay Island received around 5.000 visitors per day and the incensement of tourism during the years created negative impacts of the Island. According to a deputy dean to the University of Bangkok, the beachfront hotels, the boat anchors and the plastic waste dumped into the sea are the main effects (Coldwell, 2018). To solve such problematic situation in the Island, national authorities applied a strategy to reverse environmental damages, by closing the Island in this present year low season from June to September.

Unplanned tourist development lead to the spread of recreational tourism activities in oceanic islands (Mathieson & Wall, 1982). In most of the cases, tourism recreational activities (such as resorts) are located on coastlines of these Islands and do not respond to the limits of construction through a land use plan. Resorts are centres located on a coastal, inland or mountain area which was transformed to make it as a leisure attraction suitable for tourist consumption (Mathieson & Wall, 1982). Mathieson and Wall (1982 in Barrett, 1958), proposed a theoretical scheme of accommodation zones in a seaside resort to understand its particular morphology (Figure 16). According to it, tourist development of such accommodations begins around a core and expands outwards. Shops, large hotels and facilities are located very close to frontal amenities, nearby the sea. Hotels occupy the area around core facilities and other accommodations a less central area.

Figure 16. Resort morphology



Source: (Mathieson & Wall, 1982)

Because of their small size with limited resources, susceptibility to natural disasters, environmental fragility, cultural sensitivity, high costs of trading and restricted access to services (either by boat or plane), Islands are characterized as critical territories to respond to the Sustainable Development Agenda (Cordeiro, 2008 in Briguglio, 1995; UNEP & ICLEI, 2003; UNWTO, 2012) and a reason why the need to recognize tourism impacts is crucial in order to better plan and manage the destination towards a sustainable tourism development.

3.3. THE CONCEPT OF SUSTAINABLE TOURISM DEVELOPMENT

As a consequence of what has been described, Tourism has tremendous and conflicting impacts on sustainable development trends. As such, understanding how Tourism can contribute to or prevent actions that erode sustainable trajectories is critical for this research, as announced on Chapter 1.

Sustainable tourism development was recognized for the first time on the World Tourism Organization Conference of Sustainable Tourism in 1990, due to the spread of sustainable development concept into other sectors, and various studies and debates were carried out since then as well (Butler with "Sustainable tourism: A state-of-the-art review" in 1999; Mourão with "Sustainable Tourism Development- principles, foundations and practices" in 2000; Swarbrooke with "Sustainable Tourism Management" in 1999;). According to UNWTO and UNP (2005) sustainable tourism development can be defined as a *"Tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities"*. Such a concept meets with the following requirements (UNEP & ICLEI, 2003 in WTO, 1999):

- **Tourist resources** (natural, historical, cultural and others) are preserved in a way that allows them to be used in the future, whilst benefiting today's society;
- **The planning and management of tourist development** are conducted in a way that avoids triggering serious ecological or socio-cultural problems in the region concerned;
- **The overall quality of the environment in the tourist region** is preserved and, if necessary, improved;
- **The level of tourist satisfaction** should be maintained to ensure that destinations continue to be attractive and retain their commercial potential;
- **Tourism** should largely benefit all members of society (p.9).

In this line of thought, it should be seen as a framework to develop tourism destinations in the long-term, yielding the satisfaction of destinations' stakeholders, tourists, protection and improvement of local resources (Eusébio et al., 2014).

Many authors have proposed principles to help to understand such concept. For Butller (1999 in Butler, 1993), sustainable tourism development is a tourism activity which is developed and maintained in such a manner and at such a scale that it remains viable over an indefinite period. It also does not degrade or alter the environment (human and physical) in which it exists to such a degree that it prohibits the successful development and wellbeing of other activities and processes.

Generally, sustainable tourism development can be considered as a vehicle to achieve sustainable development principles more generally and its 17 sustainable development goals (Chan, 2010 in Gonzales, 1996; Sharpley, 2009) (Figure 17).

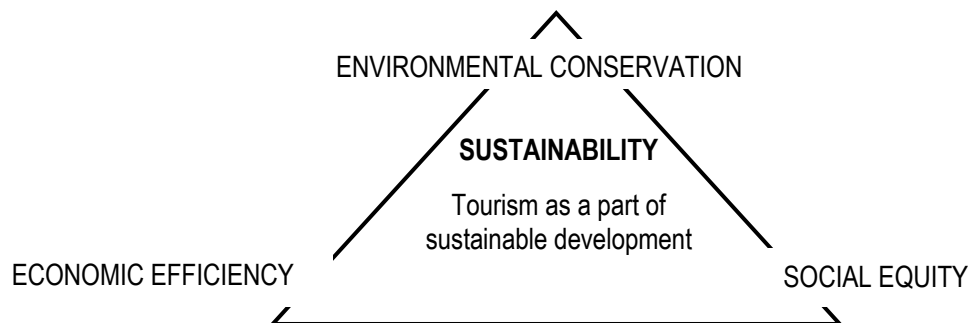
Figure 17. Sustainable Tourism Development



Source: (UNWTO, 2018c) - “Tourism & Sustainable Development Goals” <<http://tourism4sdgs.org/tourism-for-sdgs/tourism-and-sdgs/#>> (Accessed 14 August 2018)

In this way, and according to the sustainable development concept, sustainable tourism development can also be distinguishable in three dimensions: environmental, social and economic (Figure 18).

Figure 18. Dimensions of Sustainable Tourism Development



Source: Adapted from Swarbrooke (1999)

As mentioned on section 2.3., to base the concept on these three pillars separately or give prior attention to the economic pillar is an early thinking of sustainability. It was also mentioned in section 3.2., that tourism is used, in many cases, as a strategical sector to improve economy, being its focus when planning destinations. Planning for sustainable tourism development is about reflecting on the three pillars of sustainability, giving priority to environmental conservation and requiring social equity and economic efficiency, at the same time as

accomplishing the UN 17 SDG. In Agenda 2030, tourism is specifically included on the 8th, 12th and 14th SDGs, focusing on tourism jobs, promotion of local culture and preservation of marine resources (United Nations, 2015):

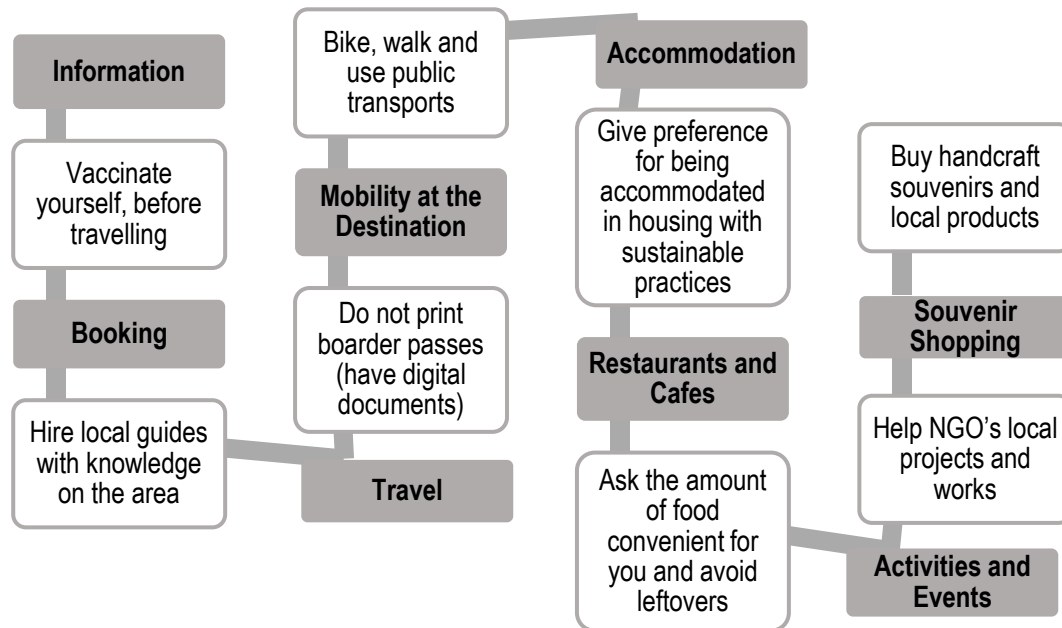
- **8.9.** *“By 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products” (p.24)*
- **12.b.** *“Develop and implement tools to monitor sustainable development impacts for Sustainable tourism that creates jobs and promotes local culture and products” (p.27)*
- **14.7.** *“By 2030, increase the economic benefits to small island developing States and least developed countries from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism” (p.28).*

It is important to make clear that sustainable tourism development is based on the principles of sustainable development and should be referred as a condition or a state of tourism and not a type of tourism (Stilwell, 2011; UNEP & UNWTO, 2005). For that reason, the differences between sustainable tourism development and ecotourism, community-based tourism (or other types of tourism) have to be clarified, because they should not be seen in the same parameter (Swarbrooke, 1999). Therefore, ecotourism and community-based tourism (CBT) are segments of tourism which tries to accomplish social, environmental and economic needs of local communities through the offering of a tourism product.

Although the concept can be easily understood and suggests an easy vision to be applied in theory, the practice proves that it is a difficult challenge to combine certain types of tourism segments with the goal of sustainable development. Also, because it implies an effort from the visitors, tourism businesses, local communities, institutions and organizations, governments and academia which can be considered as an ambitious challenge to be accomplished.

For the visitor, sustainable tourism development should be understood as a rational and ecologic way of travelling, through a contribution to the development of the destination (Mourão, 2000). Strugar et al. (2017) characterize green tourists or ecotourists as the ones [...] “who have developed environmental awareness and responsibility through an ecological acceptable behaviour” (p.3). However, Strugar et al. (2017) perspective refer “it is not enough to have a correct belief and sense of responsibility [...] but to transform ecologically desired norms of behaviour into actual behaviour” (p.3). Some of those practices can be visible on following figure 19:

Figure 19. Basic travellers' behaviour for sustainable tourism development



Source: Author Elaboration (Mete & Acuner, 2014; UNWTO, 2018c)

For example, when traveling, visitors should inform themselves very well about the destination, especially when visiting developing countries. Vaccinate is a purposed attitude they should have to prevent diseases being this, the SGD 3 of the UN 2030 Agenda. When booking activities to do at the destination, travellers can have a particular attention to the local guides. Giving preference to the ones who have knowledge on the area will provide a more unique and authentic experience. Also, when traveling, the paper boarder documents can be substituted to digital ones. Entering in national restaurants and coffee shops in the country of origin instead of famous international chains of food consumption is an example of responsible tourist behaviour towards the local community economy as well as renting of bicycles or electric vehicles at the destinations, contributing for a sustainable mobility. Tourists should also practice activities in a way to not damage natural habitats and preserve cultural heritage. When shopping at destinations, visitors can bring their own bag and do not give preference to plastic. Plastic production and consumption are a major stress for the environment, especially for marine wildlife, through ingestion, bioaccumulation and changes the functioning of habitats (Vegter et al., 2014 in Moore, 2008) and being against goal 14th of UN2030 Agenda. When leaving the destination, tourists can buy souvenirs made by locals, as artisans, and benefit local community through the induced spending multiplier-effect, mentioned on 3.2. section.

Succinctly, sustainable tourism development emerged concerning the appearance of the sustainable development concept. Researches started to analyse tourism impacts and to understand that sustainable tourism development can contribute for the accomplishment of the SDGs. Despite the complexity of applying

the concept in practice, for involving various local stakeholders, tourists and even those indirectly included in the tourism value-chain, we all must make efforts when visiting a destination and change our actions into green behaviours.

3.4. PLANNING FOR SUSTAINABLE TOURISM DEVELOPMENT

It was mentioned the complexity and fragmentation of the tourism sector characteristics and impacts. Seeing that, planning is particularly necessary to ensure that all the elements are considered and developed in a combined perspective (Cordeiro, 2008).

The literature shows that planning for tourism is a recent matter. Until 1920, tourism was seen as a leisure and recreational activity outside the governmental sphere (Heriques, 2003). After this decade, tourism started to be part of the governmental policies. However, only after the Second World War, the sector assumed a position of profit generated by the public and private sectors. With the growth of mass tourism, political decision-makers started to understand the impacts that the sector create. For Choi and Sirakaya (2005), the negative impacts of tourism are especially visible when a destination becomes popular without any prior planning, management or preparation. So, governments have a leading role in planning for tourism and developing it in a more sustainable way. Even though, sustainability is a responsibility of all those involved directly and indirectly with tourism sector as well as the responsibility of tourists (as announced on the section before), governments have many tools that can be used to make a difference, such as the power to implement regulations, offer economic incentives, create cooperation between institutions to promote and disseminate good practices (UNWTO & UNEP, 2005).

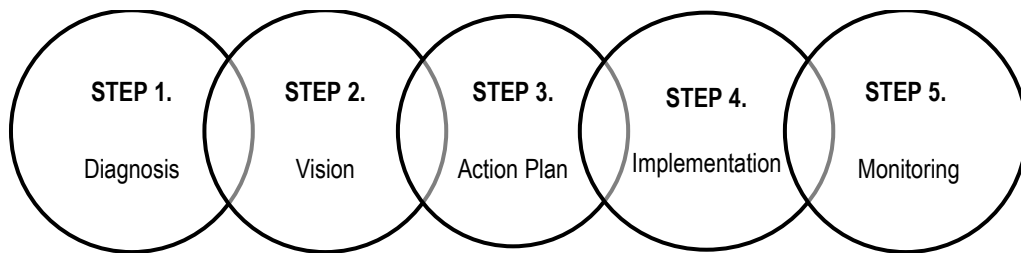
Planning for sustainable tourism development is not just about controlling and managing the negative impacts of the industry. It is about joining the economic development and environmental protection forces (and social) and mutually reinforce each other (UNWTO & UNEP, 2005). This means that planners need to adopt a holistic approach and take actions in a global way, reflecting on the economic, environment, social, culture, political factors together and other sectors of the industry in each territory (Chan, 2010; Sharpley, 2009).

UNEP & ICLEI (2003) assume “[...] that tourism development has been dependent on initiatives taken by the private sector and [...] local authorities have not been closely involved in tourism activities or have little experience of its planning, development and management” (p.10). This situation, however, has been changing in recent years, and the key role of local authorities is now recognised as a Destination Management Organization (DMO).

There are some crucial planning instruments to promote a solid and continuous sustainable tourism development such as laws, plans and programs (Bernardes, 2013). An important tool is the Destination

Management Plan (DMP). This is considered a long-term strategy, with specific goals and a direction line for the future of the destination, with a evaluation of the local tourism resources and considering the different roles of the territory stakeholders (Visit England, 2012). To implement such plan, five main steps should be given by political decision-makers (Figure 20).

Figure 20. Destination Management Plan implementation steps



Source: Author Elaboration (Visit England, 2012)

The first step is the diagnosis phase. It is characterized by an overview of existing strategies, policy documents (Hristov & Petrova, 2018) and a review on tourism laws to understand the weaknesses and threatens but also the potential and opportunities of the territory. According to those results, a vision is created (Step 2) together with the destination stakeholders and an action plan with specific goals is designed (Step 3) also with stakeholder's consultation, to consider their opinion and suggestions and to respond to their needs. Stakeholders' participation promotes the articulation of social actors, developing the cohesion of community and improving the quality of decisions (Neto, 2011). They are one of the most important components of any strategy for tourism development (Eusébio and Carneiro, 2012). If planners do not involve locals into the strategy, the model of tourism development which is being applied will not have the desire outcomes (Angelevska-Najdeska & Rakicevik, 2012; Coutinho, 2016). Involving tourism professionals is also important because they are directly or indirectly connected with the sector and have key answers and information to help developing the strategy.

In this way, developing a DMP can be a time consuming and difficult process at the local level (Choi and Sirakaya, 2005). It requires involvement of stakeholders and diverse ways of thinking and acting. In most cases, there is competition among the private actors that operate in certain locations or between the different interests of many stakeholders, which creates difficulties in the process. The key is to help them to understand how they can benefit by cooperating and working together in one common structural strategy (Coutinho, 2016). Even though it is a delicate and slow process, without their participation and guarantee of their needs will be hard for any project to succeed and be sustainable (Neto, 2011).

It is mainly important for the DMP process to do a continuous evaluation since the beginning till the end of the process, through the collection of indicators, monitoring and reporting (Step 5). Indicators can be extremely helpful to simplify reality and quantify some aspects that allow us to understand where we are, where are we going and how distant we are from where we want to be. Angelevska-Najdeska & Rakicevik (2012) claims for a need to develop performance indicators for sustainable tourism development so that we can monitor our progress and recognize where we are failing. It helps to identify the trends and threats and understand which actions are appropriate to take. However, gathering information is costly, take long time and imply human resources and the help of all stakeholders of the territory (Angelevska-Najdeska & Rakicevik, 2012 in WTO, 1996).

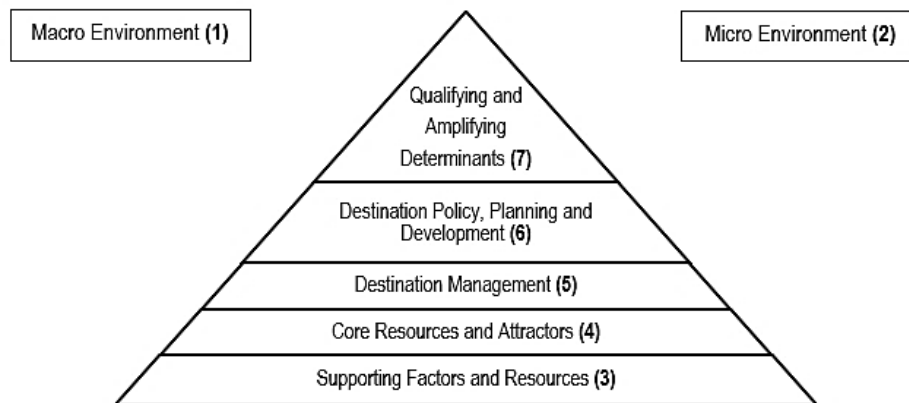
Shortly, a sustainable tourism development strategy must be developed through a participatory process, involving stakeholders and based on the following guidelines (UNEP & ICLEI, 2003, pp.20,21):

- | | |
|------------------------------------------------------------------------|-------------------------------------|
| 1. Socio-economic and environmental assessment analysis | 5. Long- term vision |
| 2. Audit of resources, facilities of tourism, strengths and weaknesses | 6. Strategic goals |
| 3. Existing and future markets | 7. Targets and indicators |
| 4. Problems and opportunities | 8. Action plan |
| | 9. Process of monitoring and review |

3.4.1. MODELS OF SUSTAINABLE TOURISM DEVELOPMENT

Taking into consideration the importance of sustainability as a driver for a destination competitiveness (Chan, 2010 in OECD, 2010), a model of sustainability and competitiveness in the tourism sector was developed by Richie and Crouch (2010). The model outlines seven components from a political perspective leading to the statement of (un)sustainable and (un)competitive destination (Figure 21).

Figure 21. Model of competitiveness and sustainability



Source: Adapted from Chan (2010 in Ritchie & Crouch, 2010)

The macro environment component (1) is composed by all phenomena outside the system which are in constant transformation and affects the destination. Factors such as economy, technology and ecology are some of the phenomena examples announced by the authors to advice destination policy-makers to take actions according to those factors. The micro environment (2) are the influences of organizations, institutions, media, government, residents and so many other publics. The supporting factors and resources (3) are the elements which support the establishment of a tourism industry. These are highways, bus services, public facilities and potable water supplies as well as accessibilities and regulations. The core resources and attractors (4) are the motivations for travelling and visit the destination: the climate, the history, the accommodation facilities and the market ties which are the linkages a destination has with other territory, over long periods of time. The destination management (5) is related to marketing which is beyond promoting and selling the destination. This component is focused on the available information to the visitors and inside of the territory about visitor's needs. It's also related with human resources and the needs of encouraging educative programmes and stimulate education. The destination policy, planning and development (6) is a crucial component to formulate a policy framework with data which will allow the development of an audit, a vision and will, consequently, create a community philosophy. And, finally, the qualifying and amplifying determinants (7) are, according to (Ritchie & Crouch, 2010) [...] factors whose effect on the competitiveness of a tourist destination is to define its scale, limit or potential. For example, security and safeness are important factors that influence visitor's behaviour and motivations and, consequently, tourism flows. Also, the carrying capacity factor² which not only restricts the growth but deteriorates the appearance and attraction. An example to what is happening to Venice, in Italy,

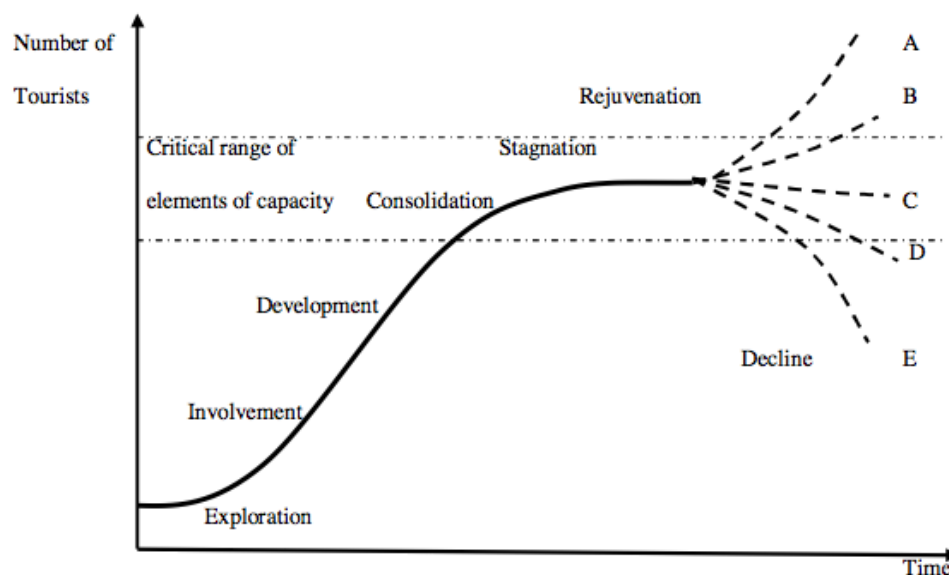
² According to Mathieson and Wall (1982), "carrying capacity is the maximum number of people who can use a site without an unacceptable alteration in the physical environment and without an unacceptable decline in the quality of the experience gained by visitors" (p.21).

receiving a significant number of visitors and causing dissatisfaction of visitors and locals. This is one of the destinations which is mostly recognized for the negative impacts tourism creates, receiving around 25 million of tourists every year (its population is 50 thousand people) and the measures of control are becoming more and more extreme, resulting in bills of 100€ up to 450€ or arrest visitors in security cells for few hours, to prevent drastic situations (Fernandes, 2018).

Richie and Crouch (2010) clarify that all of these factors determine the success of a destination as sustainable and competitive. Chan (2010) agrees that the model offer a more holistic perspective in understanding the sustainable tourism development concept.

Other important model that can be used as a tool to plan for sustainable tourism development is the Butler's Model of Tourism Area Life Cycle (TALC) (Figure 22).

Figure 22. Butler's TALC Model



Source: (Pearce, 1989 in Butler, 1980)

The concept of life cycle emerged for the first time associated to the tourism in 1980 by Richard Butler, showing the evolution of destinations, in its TALC model (Coelho & Lourenço, 2015). According to Figure 20, destinations over time evolve in six stages, starting in small scale: 1) exploration; 2) involvement; 3) development; 4) consolidation; 5) stagnation and 6) rejuvenation or decline. When a destination has mostly non-tourist services available, it is on the first stage of Butler's model. Then, people start to notice that there are increasing numbers of visitors coming. Locals start to increment businesses in order to provide accommodation, food, guides and transport (2). The development stage (3) is when big companies start to see the emerging

potential of the area therefore start to invest money in the region. They build large hotel complexes and sell package holidays. Therefore, this makes the numbers of tourists grow dramatically and massively expands the number of job opportunities for people in the local region. This is when local economy is dominated by tourism at this stage (4), and many local people will make their money from this type of industry. The stage where unsustainability is visible and environmental, social and economic problems start to appear is on the stagnation phase. The destination no longer is competitive, and destination represents a fake culture sense. As a result, and from the stagnation point, there are 2 basic possibilities: decline or rejuvenation (6). The last one involves a cash injection from either a private company or the government, to create a new attraction within the original resort, to boost its popularity.

The model can be considered as a powerful tool to identify the cycle of life of destinations and help to take better actions towards sustainable tourism development (Coelho & Lourenço, 2015).

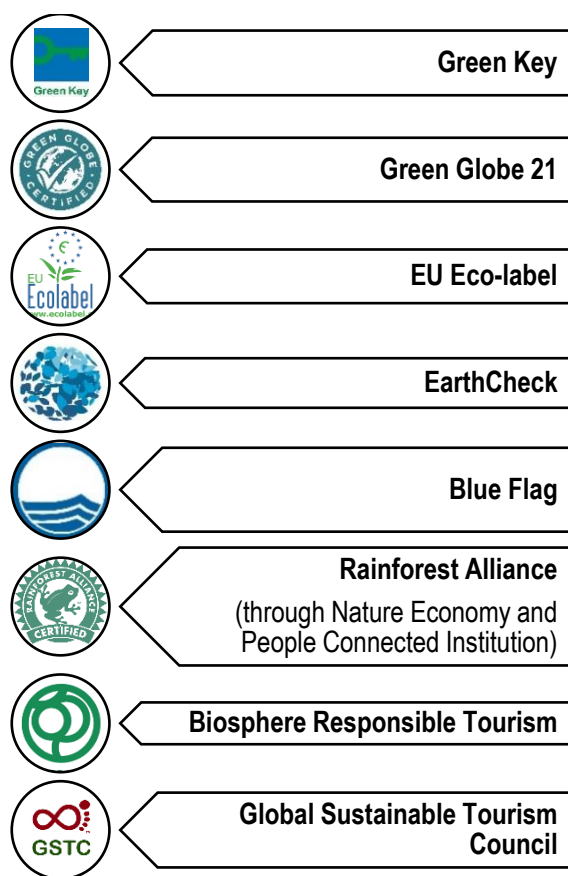
Analysing these two models, it is possible to conclude that tourism planning is a complex puzzling system. Choi and Sirakaya (2005) argues that successful implementation of sustainable tourism development strategies requires integrated vision, policy, planning, management, monitoring, and social learning processes. And such approach craves for a bigger involvement of actors in the same direction, within a sustainable strategy, as mentioned on the section before.

3.4.2. CERTIFICATION LABELS FOR A SUSTAINABLE TOURISM DEVELOPMENT

Accomplishing all such actions announced on section 3.4.2. seems to be a difficult and complex process, especially because it implies a strong state action and because it needs to involve various groups of people and different ways of thinking and acting, as announced before.

In the decade of 90's, it was created the environmental certification labels, being developed especially for tourism industry (Lima, 2003). Even though, the various existent programmes are prominent for the accommodation sector (e.g. EU Eco-label), there are labels developed to classify destinations as sustainable tourism development destinations and also to classify tour operators, restaurants, attraction sites, nature reserves, parks, beaches and marines (e.g. Blue Flag), events, conference centres, health centres, DMO's and general tourism businesses, for their contribution to sustainable development (Figure 23).

Figure 23. Examples of certification labels for a sustainable tourism development



Source: Author Elaboration (Lima, 2003; Regional Activity Centre for Sustainable Consumption and Production, 2017)

Labelling is a voluntary process awarded by the State, an organization, an association or a company and the criteria is usually determined through a participatory process and are regularly verified by an inspection body (Regional Activity Centre for Sustainable Consumption and Production, 2017). Certification labels are very important because it helps tourism companies to identify the most critical environmental problems and to implement solutions (Lima, 2003). It also promotes environmental awareness among all the stakeholders and are powerful marketing tools.

However, and according to Tavares (2017), there are only 9 certified regions in the world, islands and islet classified as sustainable tourism development destinations. Azores aims to be considered as the first archipelago worldwide intituled as sustainable tourism development destination by GSTC (Tavares, 2017).

To accomplish a more formal certification, the Eco Management and Audit Scheme (EMAS) and International Standards Organization 14 000 (ISO 14 000) are the two options available for environmental labelling (Lima, 2003). In the sector of tourism, this application is very recent at the international level and even more recent in Portugal.

Such labelling can be, in this way, an environmental awareness tool and a very important mark to promote destinations' competitiveness and attractiveness.

3.4.3. PLANNING FRAMEWORK FOR A SUSTAINABLE TOURISM DEVELOPMENT: A PROPOSAL

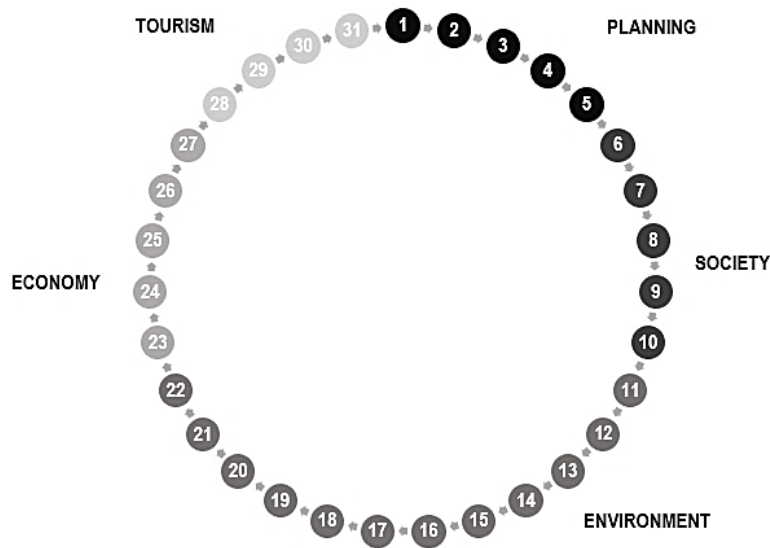
In tourism, planning tends to be influenced by state ideology and its social, economic and environmental goals (Heriques, 2003, Sharpley & Knight, 2009). Following this thought, and even though, many countries see tourism as a positive agent of development, not all states establish an agenda for tourism (Sharpley & Knight, 2009; Heriques, 2003) or develop the sector in the same way. To plan towards a sustainable tourism development, it is needed a strong state intervention, to regulate, monitor and control all the tourism activity (Kavaliauskė & Kočytė, 2014 in Edgell, 2006).

Various authors agree on the lack of guidelines to develop and implement strategies for sustainable tourism development (Candiotta, 2009; Chan, 2010; Sharpley, 2009; Swarbrooke, 1999) or concrete examples of applied strategies with positive results. This is why it was found necessary to schematize and propose a policy/planning framework for sustainable tourism development.

And even though, sustainable tourism development is multifaceted and there is no "one size fits all" solution (Chan, 2010) because every territory must be analysed in particular and each action must take into consideration the various existence factors, a framework such as the one proposed here can contribute to the framing of policy towards sustainable tourism development of destinations.

Figure 24 intends to contribute with thirty-one topics, concerning five main areas of intervention: Planning process (Figure 25), social and cultural frame (Figure 26), environmental frame (Figure 27), economic frame (Figure 28) and tourism frame (Figure 29). This scheme was inspired on the discussion so far in this dissertation and on the Global Sustainable Tourism Council (GSTC) criteria. GSTC is a non-profit organization, including various actors such as agencies, governments, organizations and individuals and provides global sustainable standards to guide tourism stakeholders to plan tourism destinations. This framework was also inspired on some authors (e.g. Butler, 1999; Swarbrooke, 1999) as well as institutions (e.g. UNWTO) and their conferences (e.g. World Summit on Sustainable Tourism, 2015) which have been contributing to the development of some principles to define sustainable tourism destinations.

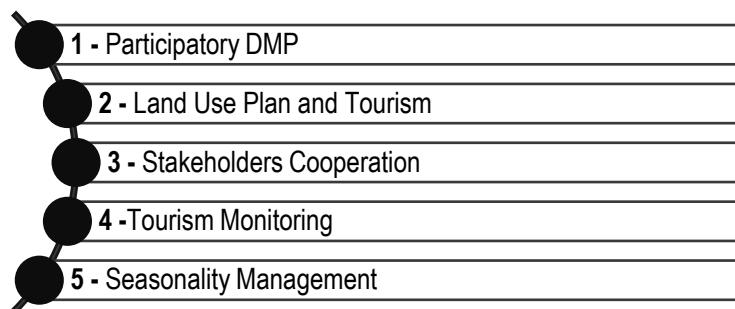
Figure 24. Planning framework for a sustainable tourism development



Source: Author Elaboration (Buckley, 2012; Chan, 2010 in Globe '90 Conference; Global Sustainable Tourism Council, 2013; Swarbrooke, 1999; UNWTO, 2015; UNWTO, 2018b; UNWTO & OAS, 2018; World Summit on Sustainable Tourism, 2015)

For each of the identified areas of intervention, particular actions should be considered, and they are now discussed in the following figures and arguments.

Figure 25. Critical actions for the planning process



Source: Author Elaboration (Buckley, 2012; Chan, 2010 in Globe '90 Conference; Global Sustainable Tourism Council, 2013; Swarbrooke, 1999; UNWTO, 2015; UNWTO, 2018b; UNWTO & OAS, 2018; World Summit on Sustainable Tourism, 2015)

Figure 25 discuss critical actions towards the exercise of planning. On section 3.4., it was mentioned the importance of a DMP as an important tool to develop sustainable tourism destinations. So, this is the first action to be taken to plan towards a sustainable tourism development (1). Tourism policy-makers must include all local community, such as indigenous peoples (World Summit on Sustainable Tourism, 2015), on the creation of the

plan or any strategy, through public meetings, consultation, debates, focus-groups and questionnaires, and consider actions covering environmental, economic, society and its culture, quality, health and safety issues. To accomplish such action, they need to select a department, group or committee responsible for the coordination of the development of the DMP, the DMO.

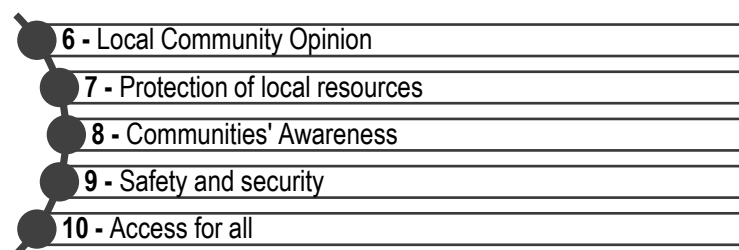
Other important action to plan for sustainable tourism development is the creation or the adaptation of a Land Use Plan and the inclusion of tourism in the Plan rules (2) (Butler, 1999). On section 3.4., it was mentioned the need to plan tourism with other sectors and adopt a holistic approach, so this could be an efficient solution.

To guarantee stakeholders cooperation and promote their dialogue, planners must create tourism boards, involving public, private and community stakeholders in decision-making processes, as creating a DMP, as announced on top, and on general discussions about tourism (3) (Butler, 1999).

To access and monitor tourism impacts is critical issue, while planning for sustainable tourism development. In this sense, governmental entities must collect indicators continuously, develop tools and techniques to analyse tourism impacts, monitor and report within the implemented strategy process (4). But it is also critical to encourage tourism professionals to evaluate their activities (World Summit on Sustainable Tourism, 2015) and incite their contribution for a sustainable tourism development. Finally, and to combat seasonality, implement a strategy for all-year tourism opportunities, promotion and attraction (5).

Social and cultural development is another area of intervention that governments should focus on, while applying policies for sustainable tourism development (Figure 26).

Figure 26. Critical actions for social and cultural development



Source: Author Elaboration (Buckley, 2012; Chan, 2010 in Globe '90 Conference; Global Sustainable Tourism Council, 2013; Swarbrooke, 1999; UNWTO, 2015; UNWTO, 2018b; UNWTO & OAS, 2018; World Summit on Sustainable Tourism, 2015)

In order to guarantee social and culture development, decision makers and planners should collect, monitor and record communities' aspirations, concerns and satisfaction about tourism through questionnaires and the creation of tourism boards (6).

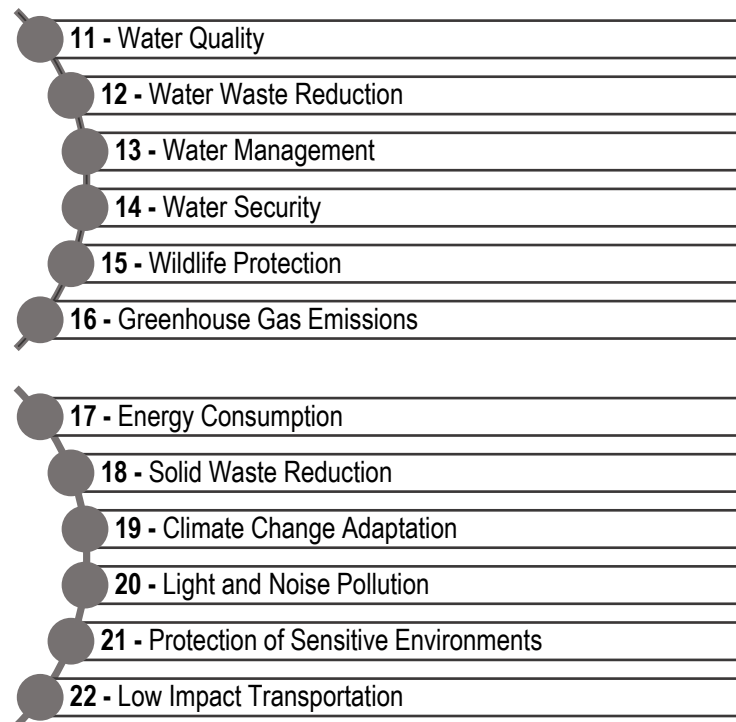
Concerning the protection of local resources, policy-makers must apply policies and laws to protect vulnerable sites, to stop the illegal trade of historical crafts (Butler, 1999) and for a sustainable land use, design, construction or demolition (7). There are some examples on sustainable land use appliance policies in Barcelona, for example. As it has been discussed, Barcelona is recognized for its negative repercussions of tourism impacts, regarding property speculation and overcrowding. So, the local government recently implemented an Urban Plan (called PEUAT) adopting a zoning methodology and dividing the city in four zones with consequent principles (Ajutament de Barcelona, 2018). As an example, the zone one (west part of Barcelona) does not allow the implementation of new tourism businesses or its extension. The results are expected to be positive, to reduce those negative tourism impacts already visible on the city.

Other important action governments must apply is to enhance community' understanding of opportunities and challenges of sustainable tourism development and climate change adaptation through debates, trainings and conferences (8) (Butler, 1999). For instance, create programs at schools as internships or work-study programs (UNWTO, 2018b). According to Bruno Cabrita (2018) from *Turismo de Portugal* Institution, in the Portuguese tourism professional schools, students from level 5 of the tourism course, are obliged to attend a subject on sustainability in tourism. This is an example of how Portugal as a destination is moving towards a sustainable direction, through the implementation of actions concerning communities' awareness on sustainable development.

Still giving attention to the social parameter and having the goal of developing safety and security at destinations, the next proposed action intents to motivate policy-makers to often elaborate fire inspections, to regular taxi licensing system with clear pricing or to develop practices to prevent abuses, particularly of children, women, teens and minorities (9).

This last action is about inclusive tourism and designing policies to support access for all in tourist sites, facilities and accommodations and guarantee a responsive mobility of the visitors and locals (10).

Figure 27. Critical actions for environmental development



Source: Author Elaboration (Buckley, 2012; Chan, 2010 in Globe '90 Conference; Global Sustainable Tourism Council, 2013; Swarbrooke, 1999; UNWTO, 2015; UNWTO, 2018b; UNWTO & OAS, 2018; World Summit on Sustainable Tourism, 2015)

On figure 27, it is possible to reflect on the environmental-related policies that can be applied by tourism policy-bodies. Actions 11, 12, 13 and 14 concerns the water use. Destinations must implement a system to manage and monitor the drinking and the recreational water quality but also must develop regulations to ensure water treatment for everyone to have access to it and prevent excessive water consumption. Governments have a leading role in educating the actors. They should create a program to guide and encourage local community, enterprises and institutions to measure, monitor, reduce and report the water usage. And they should promote a management system to control the water used by enterprises and institutions and to ensure if it is compatible with the water requirements of the destination community.

Concerning wildlife protection (15), political decision-makers must implement regulations and standards of tourism activities which involve harvesting or capture, display, sale of plants and animals. They must also implement a system to conserve habitats, species, ecosystems and to prevent the introduction of invasive species (21).

As green gas emissions are very important to report, to guarantee a sustainable development, governments must develop a system to encourage enterprises to measure, monitor, reduce and report their greenhouse gas emissions (16) and promote a system to identify risks and opportunities associated to climate change (19). For

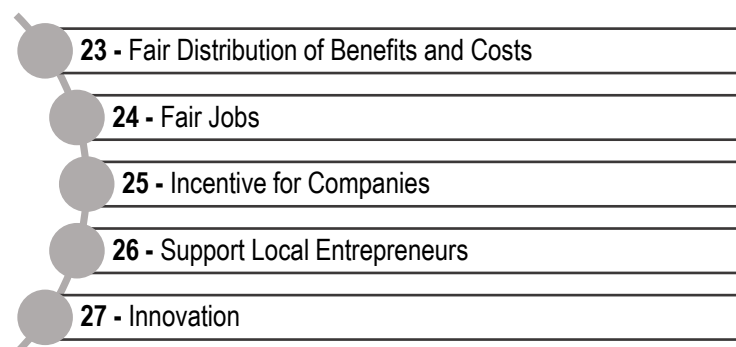
instance, Mexico is a territory highly exposed to natural disasters. So, the Ministry of Tourism undertook studies to address these challenges by evaluating the vulnerability of the territory to climate variability and climate change (UNWTO & OAS, 2018). These types of actions can extremely helpful in decision-making processes.

Concerning the energy used by local community, enterprises, institutions and visitors, tourism policy-makers have the power to incite the adoption of hydro, solar or wind energies (UNWTO, 2018b) as well as the power of creating a programme to encourage enterprises and institutions to measure, monitor, reduce and report energy consumption (17).

Another action can be related to the implementation of a program to reduce, recycle and reuse of waste (18).

Select and implement regulations to reduce light and noise pollution is the 20th proposed action. And, finally, incite renewable energy at destinations (World Summit on Sustainable Tourism, 2015) and promote the use of low-impact transportation (as walking and cycling) guarantying, at the same time, affordable transport costs to all (22).

Figure 28. Critical actions for economic development



Source: Author Elaboration (Buckley, 2012; Chan, 2010 in Globe '90 Conference; Global Sustainable Tourism Council, 2013; Swarbrooke, 1999; UNWTO, 2015; UNWTO, 2018b; UNWTO & OAS, 2018; World Summit on Sustainable Tourism, 2015)

Figure 28 shows that governments must monitor and report the direct and indirect economic contribution of tourism for a long-term development of the destination (23) to understand the present path and apply actions for a future development. Apply legislations to support fair wages for all, equal opportunities and remuneration in employment for all (UNWTO, 2018b) and training opportunities by enterprises (24) is other proposed action.

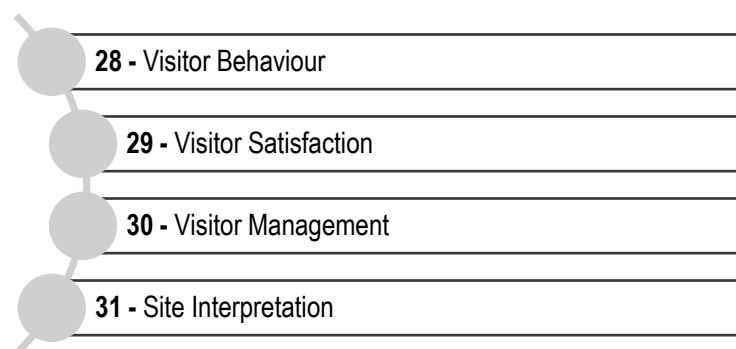
Action 25 is about supporting institutions and encourage them to create programmes and projects related with sustainable tourism and encourage sustainable initiatives from locals and visitors. During the visit to *Turismo de Portugal*, it was mentioned the project REVIVE, by the architect Vera Chapado (2018) as an example of

sustainability. This is an initiative which government attributes a financial budget to incite private companies to revitalize old and unoccupied buildings in Portugal, promoting tourism.

Governments can also create programs to promote local businesses as local artisans, farmers and other elements of the tourism value-chain and to encourage the purchase of goods and services locally. Coutinho (2016) exemplifies how community-based tourism development can be a segment of tourism connected with the sustainable tourism development principles and which communities have a strong participation into the process of development. Small families of Costa Rica participate directly on the tourism value-chain by showing to tourists the process of coffee cultivation and production, offering their homemade meal and selling their local coffee.

Promote innovation (UNWTO, 2018b) and incite the scientific research for tourism, allowing stakeholders to work in cooperation with Universities, to develop technological systems, is the last proposal of the economy development area of intervention (World Summit on Sustainable Tourism, 2015) (27). For instance, for the accomplishment of “*Parque das Serras do Porto*” Project (a project in Porto, Portugal, to valorise the touristic potential and nature heritage of these forests), the responsible-bodies for the project are working in cooperation with the Faculty Sciences of Porto University to collect soil samples for physicochemical characterization, for instance. The Project is also promoting the development of scientific works, including a master's degree around the landscape basins of the Ferreira and Sousa rivers valleys and a doctorate on the subject of public participation in the planning process, both of students from the Faculty of Science of the University of Porto and also intends to establish a protocol that aims to promote internships, master's dissertations and doctoral thesis (Serras do Porto, 2018).

Figure 29. Critical actions for tourism development



Source: Author Elaboration (Buckley, 2012; Chan, 2010 in Globe '90 Conference; Global Sustainable Tourism Council, 2013; Swarbrooke, 1999; UNWTO, 2015; UNWTO, 2018b; UNWTO & OAS, 2018; World Summit on Sustainable Tourism, 2015)

On the topic of tourism activity, planners must increment code of practices to incite visitor's behaviours, at all destination but mainly in sensitive sites (28). As mentioned before, travellers are responsible for the development of a destination to become sustainable. They have a crucial role and governments can incite green tourist' attitudes and educate them for it (World Summit on Sustainable Tourism, 2015). For instance, UNWTO (2018b) is making efforts to incite these behaviours through the creation of visitor guidelines' principles and providing it in a website with access for all.

To guarantee visitor's satisfaction and maintain their fidelity, collect their opinion is crucial (29). Using trip advisor, booking and other travel platforms and analyse the opinions is a good way to understand what the destinations needs to improve.

For the political-action number 30, planners should create a mechanism to attract to sites and include measures to preserve, protect and enhance natural and cultural assets. And incite initiatives of solidary tourism as community-based tourism to help the evolution of indigenous people and have the same access as others. As well as promotion, by guaranteeing a cooperation between travel agencies (30).

Last general political-action is the creation of a site interpretation, to be accessible to everyone. Action number 10, already announced the need for destinations to build inclusive type of tourism, related with mobility, tourist sites and facilities. However, this specific action intends to be a motivation for politicians to develop interpretive information specifically at natural and cultural sites, concerning language and information provided. Also, on tourism websites, it is important for governments to promote to tourism stakeholders the use of English language to be accessible for the visitor.

Shortly, the political measures proposed within this framework can help tourism decision-makers to take better actions towards a sustainable tourism development of the destination and apply, in practice, the concept of sustainable tourism development.

4. A STRATEGY FOR CHIOS' SUSTAINABLE TOURISM DEVELOPMENT

This chapter aims to purpose a draft of a strategy for sustainable tourism development, using Chios' Island as a case study. The goal is to perceive the context of the Island, its potentials and challenges and contribute with policies for a sustainable tourism development.

In this sense, this section will be sub-divided in five main sections, as intends to be a draft of a DMP and it follows the framework of actions proposed on the theoretical chapter, on the 3.4.3 part and uses it as inspiration.

As mentioned on section 3.4., a strategy as DMP's must be divided into Diagnosis (4.1.), Vision (4.2.), Action Plan (4.3.), Implementation (4.4.) and Monitorization (4.5.) which is the structure of the present chapter. The diagnosis (4.1.) will present the geographic, historical, cultural, political and social context; the tourism demand and supply and the tourism planning exercise. To summarize all such data, a SWOT analysis was draw, highlighting its potentials, weaknesses, opportunities and threatens for a sustainable tourism development. According to such results, a vision (4.2.) and an action plan (4.3.) was draw. Section 4.3.1. presents a scheme-relationship between the proposal action plan and the sustainable development goals of the UN 2030 Agenda. On 4.4., the results obtained through the application of questionnaires to tourism professionals of Chios' Island are showed. Ninety-nine tourism professionals were surveyed to access the perceptions about the tourism products and about the proposal actions. Finally, section 4.5. intends to provide indicators for future collection and monitoring of the proposed DMP.

4.1. DIAGNOSIS OF CHIOS

4.1.1. GEOGRAPHIC CONTEXT

Chios is the 5th biggest Island of Greece, covering an area of 842.5 km, located in the north of the Aegean Sea, in the border of Europe, near Turkey (Figure 31). In terms of administrative system, the Island belongs to Chios Regional Unit of the north Aegean Region of Greece and it is composed by Chios, *Psara* and *Oinousses* Islands. This group of three Islands has its own local government, being Chios the most populated Island with 51.390 inhabitants (Enterprise Greece, 2016) (Figure 30).

Figure 30. Geographical information of Chios' Island

Dimension	842.5 km
Population	51.390
Climate	Mediterranean
Fauna	Goats and sheep
Flora	110 species
Protected areas	2 Natura 2000 regions
UNESCO Sites	3 Monasteries
Main Resources	<i>Mastiha</i> , <i>Souma</i> , <i>Mastelo</i> cheese, Craft Beer, Honey, Wine, Olive oil

Source: Author Elaboration

Figure 31. Chios' Island



Source: Author Elaboration

The Island is characterized by Mediterranean climate, with temperatures around 6° to 12° in January and February, and 29° to 35° during July and August, allowing the visitor to explore the territory during all year. Composed by 45 swimmable beaches, Chios presents crystalline and warm waters and diverse types of sand, from white sand to rock volcano. Besides beaches, there are other natural resources. The mountains represent an extensive percentage of the Island's land composition and are diverse, from vegetative mountains with *mastiha*³ trees on the south, to rock mountains on the north. Chios has two Natura 2000⁴ protected areas

³ *Mastiha* is a resin produced by *Pistacia* plant, cultivated in Chios Greek Island, which can be planted in other parts of the world and even on the north part of the Island, but the resin will not be produced (Dimas, Pantazis, & Ramanujam, 2012). For this reason, it has been announced as a competitive advantage of the Island, playing an important role since ancient times and used nowadays in diverse applications, such as cosmetics, cooking and beverages.

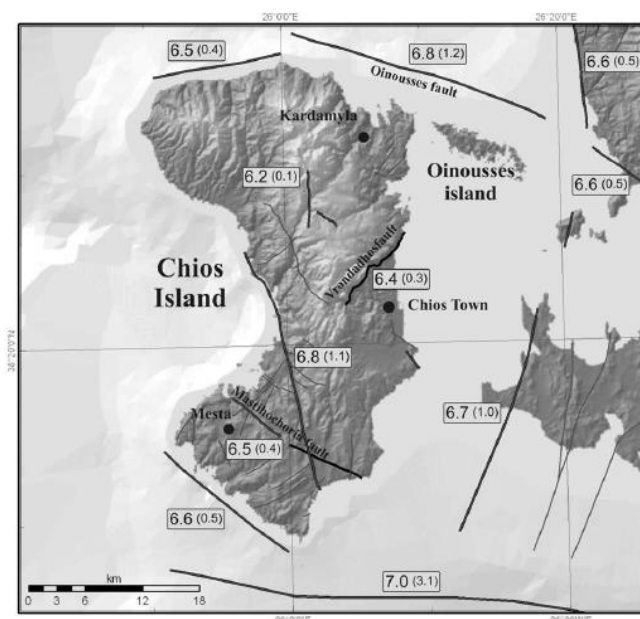
⁴ According to European Environment Agency (2016), "Natura 2000 is an ecological network of protected areas, set up to ensure the survival of Europe's most valuable species and habitats".

(European Environment Agency, 2016) as well as eight pedestrian trails from ancient times, which were recovered by the government, representing an image of nature connection. Other flora elements are possible to visualize during spring, when 110 species of flowers bloom. Lilies, Orchids, wild tulips and different kinds of aromatic herbs are some of the possible examples that visitors can picturize during March and April. About fauna, goats and sheep are the main animals on the north of the Island.

Regarding consumable resources, the Island is known in all the country by its vast citrus fruits production in *Kampos* area. The manufacturing of Chios craft beer is also a local product known, as well as honey, wine, *souma*, which is a drink made from figs or grapes, cow cheese (*mastelo*) and olive oil. Giving priority attention to water consumption, large concentrations of mercury at a significant number of bore holes was found on Chios' Island drinking water (Dimitrios, 2005). This may lead to serious health problems, if consumable. Besides, visitors and local community are dependent on the consumption of plastic bottles of water, which can be a threaten to the environment.

Despite its rich and diverse nature and resources, the Island of Chios is located in a complex geotectonically area, at the North Aegean Region, affected by North Anatolian Fault Zone (NAFZ) and West Anatolia Graben System (WAGS) in Asia Minor (Papazachos and Kiratzi, 1996; Pavlides et al., 2009 in Papazachos and Papazachou, 1989; Kiratzi and Louvari, 2003) which characterizes the territory as vulnerable to Earthquakes. In 1881, Chios faced the most drastic seismic event in Greece and a less severe in 1949. Even though there is no recent activity registered (Pavlides et al., 2009), there is though some faults which cuts through the Island and shows its vulnerability for future seismic disasters (Figure 32).

Figure 32. Chios' Island fault map



Source: (Pavlides et al., 2009)

Tick lines of figure 32 are the possible active faults of the area. One is visible on the south part of the Island, the fault *Mastihochoria*, which is the same that caused the Earthquake in 1881. According to the map, if a possible earthquake happens, it can reach its potential around 6,5 and *Chios-Vrontados* fault can reach the 6,4 potential (Pavlidis et al., 2009).

4.1.2. HISTORICAL AND CULTURAL CONTEXT

In the past, Chios was a strategic territory of governance, for its resources (mainly because of *mastiha*). The Island was governed under the influence of Byzantine (1329-1346), Genoese (1346-1566) and Ottoman (1566-1912) empires and these dominations imprinted the culture of Chios, which is still visible on the material heritage of the Island. As an example of this historical occurrence, villages as *Mesta*, *Olimpi* and *Pirgi*, in the south, are characterized by its defensive architecture of housing, connected to each other, since Genoese period. UNESCO classified Nea Moni, Hosios Loukas and Daphni monasteries, highlighting the cultural heritage of the Island.

Concerning the immaterial heritage, a range of events happens in the Island during all year. In the new year's, models of boats are exhibited in the city. In February, the '*Mostra*' joins all the residents to celebrate Carnival. And on Easter, the visitor can enjoy a serious competition of firework war between orthodox churches, named 'Rocket War'.

4.1.3. POLITICAL, ECONOMIC AND SOCIAL SITUATION: THE GREEK ECONOMIC AND HUMANITARIAN CRISIS

Concerning economic activities, the population is mainly dependent on the public administration, education, health and social work activities sector, contributing to 30,6% of the Gross Value Added (GVA) of the Island (Enterprise Greece, 2016). Trade, transportation and storage, accommodation (where can be included the tourism sector) and food services activities sector is also pointed out as a strong economic activity of the Island, as well as real Estate activities (corresponding to 21,1% and 19,7% of the GVA, respectively).

Nevertheless, the rate of unemployment has been growing gradually. Chios have been facing two critical political and social problems, following the same national trends. In 2008, Greeks faced several austerity policies in result of a global economic crisis which had effects on unemployment rates, increasing from 7,7% in 2008 to 25,0% in 2015 and on the GDP per capita, decreasing from 21,877€ to 16,279€ (Papatheodorou & Pappas, 2016). According to Papatheodorou and Pappas (2016) perspective, Greece is [...] "a unique example

worldwide in terms of the negative repercussions experienced as a result of the global economic crisis [...]” (p.1).

Moreover, a new problem started in Greece in 2015 which affected mostly the Islands of the Eastern Aegean Region. Prevenient from countries as Syria, Afghanistan and Iraq, in order to fight for their lives and escape from war, around 857 000 migrants transited to Greece (European Commission & European Civil Protection and Humanitarian Aid Operations, 2018). This was the beginning of a new crisis in the country: the humanitarian crisis. In a situation of a serious economic national crisis mentioned on top, a social crisis emerged and deteriorate even more the situation. So, substantial government investments were done not only to help these people to be accommodated, to have the minimum access to basic needs, as combating hunger and fighting against diseases, but also to protect the Greek community from possible robbers and attacks. As an example, it was estimated that over 70 million euro was wasted by Greece and Spain on expensive equipment as drones and off-road vehicles to close their borders (Osterbo, 2015). It is also estimated the economic cost of the refugee crisis in 0.3 percent of Greek GDP, money spent mainly for land and sea border surveillance and asylum seekers (Osterbo, 2015).

In Chios, government created Vial Hotspot which is located 30km away from the city centre, to substitute Suda Refugee Camp located at the entrance of the city (Figure 33) which did not have enough accommodation conditions and was causing a negative image of the Island.

Figure 33. Suda refugee camp (red color)



Source: Author Elaboration

Besides several initiatives that the national government and the European Union took, to decrease refugee flows, they continue coming by boat to the Islands, such as Lesbos and Chios (Pappas & Papatheodorou, 2017

in Banks, 2016) and this situation started to have an interrelation with tourism sector. When refugee hotspots are located in tourism points, in spite of actions of humanitarianism by locals, they may eventually become irritated and aggressive, fearing to loss their tourism jobs, as a result of negative world media publicity (Pappas & Papatheodorou, 2017 in Okaka, 2014). As an example, on YouTube, it is possible to visualize some videos about Chios where it was referred some protests of citizens against refugee influx, as well as crimes involve them. This clearly shows an absence of media connection and a lack of concern about the promotion of Chios as a tourism destination and combat this negative image.

4.1.4. TOURISM IN CHIOS

a) TOURISM DEMAND

Greece is a recognized worldwide destination, presenting warm and clean waters, more than 6000 Islands and Islets, with a unique heritage and ancient history. In 2015, the country registered 23,5 million of tourists, equivalent to 13,6 million euro of tourism expenditure and tourism sector has been increasing in recent years (in 2017, it was listed around 27,1 million arrivals, all-time high) (Figure 34).

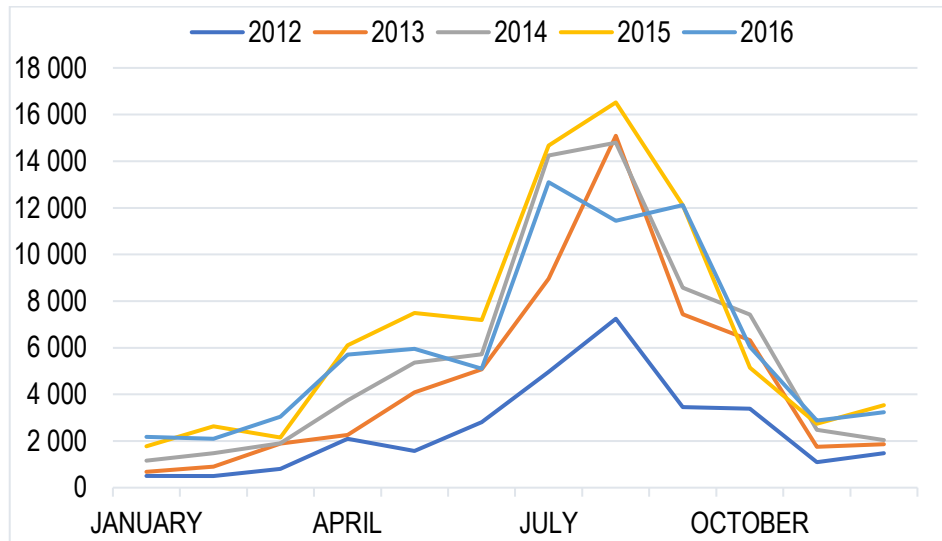
Figure 34. Key-figures of Greece tourism

YEAR	ARRIVALS	LENTH OF STAY	TOURISM EXPENDITURE
2010	15,0 million	9,3	9,6 million €
2011	16,4 million	9,2	10,5 million €
2012	15,5 million	9,1	10,0 million €
2013	17,9 million	8,9	11,7 million €
2014	22,0 million	8,4	13,0 million €
2015	23,5 million	7,8	13,6 million €
2016	24,7 million	7,7	12,7 million €
2017	27,1 million	7,7	14,2 million €

Source: Author Elaboration (INSETI, 2018c)

However, not all the Greek regions invest on tourism or take advantage of its positive economic impacts. The Island of Chios is dependent on Turkish tourists, who arrives by boats, during summer season, being august the climax of such economic activity for the Island's stakeholders. Figure 35 shows Chios as a seasonal destination (data was provided by Chios' Tourism Department of the North Aegean Region).

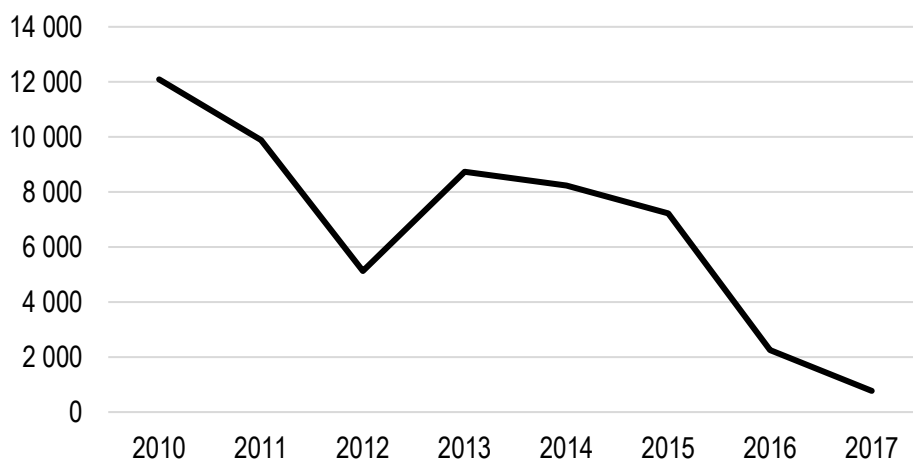
Figure 35. Arrivals by boats of Turkish tourists to Chios: 2012-2016



Source: Author Elaboration

Chios received charter-flights from cities as Vienna, Lanark, Oslo, Amsterdam, Brussels, Prague and Slovenia in the previous years, during summer season. However, in the last couple of years, these figures of tourism changed, and the number of international air arrivals decreased (Figure 36) from 12 090 international arrivals in 2010 to 771 in 2017.

Figure 36. International air arrivals to Chios 2010-2017



Source: Author Elaboration (INSETTE, 2018b)

This situation can be justified with the operational problem of the airport and its dissuasive effect on the market. The airplanes cannot operate directly to other countries and are obliged to proceed a stopover before reaching

its destination. This is a highly costly situation, with refuelling procedure and other expenses (Katsarakis, 2017) which translates into a huge cost of ticketing.

In result of that, a project on Chios *Omiros* Airport requalification was already implemented and seven steps are being applied: 1) expansion of the runway; 2) creation of an alternative route of the coastal route Chios-Thimiana; 3) rehabilitation of the runway; 4) upgrade of the terminal; 5) construction of a new terminal and development of the surrounding area; 6) expansion of the parking floor and 7) land expropriations. Costs for the project accomplishment are estimated to be around 105€ million (European Commission, 2016). On the previous year, the Island was on stage 2) of the Project which has a strong role for the Island's tourism development.

A similar problem was detected at the Chios *Chora* Port, the main Port of the city, where big cruise ships cannot land because of its small capacity. Another critical problem is the ticketing system online which is confuse and does not conceive confidence for the client to buy it. Being the port and the airport, the main gates of the destination, all of these factors represent strong fragilities for the Island's tourism development.

Still focusing on tourism demand, and analysing the occupancy rate in hotels, Chios presents results of low occupancy, comparing to Mikonos or Corfu Islands, two of the most touristic Islands of Greece (Figure 37).

Figure 37. Occupancy rate in hotels by destination: 2010-2017

	CHIOS	MIKONOS	CORFU
2010	32,2%	55,7%	61,3%
2011	28,1%	54,6%	61,7%
2012	21,3%	47,3%	56,7%
2013	24,8%	50,6%	59,6%
2014	25,6%	57,9%	54,1%
2015	28,2%	53,3%	62,8%
2016	28,1%	53,8%	66,0%
2017	26,0%	60,9%	66,3%

Source: Author Elaboration (INSETI, 2018a; INSETI, 2018b; INSETI, 2018d)

In 2015, the rate of occupancy was 28,2%, which corresponds to 123 350 foreign overnights, comparing to 53,3% in Mikonos and 62,8% in Corfu (Figure 37). This was the year the refugee crisis started. As it is possible to analyse from the table, that the figures of Chios' tourism were low even before 2015. In this way, to associate the low numbers of tourism in Chios with the refugee crisis can be a misleading explanation. The occupancy rate decreased in 2016 and 2017 (28,1% and 26%, respectively) but the humanitarian crisis also created a new tourism panorama: the volunteer tourism. People from all over the world came to Chios to help refugees, being accommodated in hotels and other tourism accommodations, and contributing for Chios tourism development.

Statistical data regarding tourism expenditure in Chios was not found. In this sense, and to examine the tourist profile of the Island, it was analysed tourism expenditure in a national level. Turks spend around 225,2€ of tourism expenses from 3 to 4 days in the north Aegean region which contributes in a very low percentage to the GDP, comparing to other visitors of Greece (INSETTE, 2018b). As an example, Austrians spent, in average, per trip, in Greece, in 2015, 919€ and they stay accommodated around 9,6 days/nights (INSETTE, 2018c). Moreover, the Turkish tourist who visit Chios needs a passport and a visa document to cross the frontier, which can take some days to acquire it. Despite the creation of a 'summer passport' during summer season, to facilitate the holiday trip to Chios, the situation contributes for the state of Chios as a seasonal destination (GTP, 2018). According to the same source, and as the Greek Ministry of Foreign Affairs noted, the visa program, which has been successfully implemented in previous years, is particularly critical for the economy of (Eastern Aegean) Islands.

b) TOURISM SUPPLY

Chios has a strong potential to become a competitive tourism destination. The Island can be considered as a cultural and nature tourism destination. However, at the moment of the research, it was possible to understand that many tourism businesses are still focus on the sea, sun and sand segment of tourism. There are some tourism professionals who have been contributing for the establishment of alternative types of tourism, such as experiences with *mastiha*. The Island presents 16 tour operators, providing activities such as sailing, yachting, scuba, kayak, experiences with *mastiha* and nature observation as well as cooking lessons, hiking, cycling, winery and thermal baths.

Regarding accommodation, Chios presents 64 hotels (INSETTE, 2018b) . The locations of these hotels were mapped with a radio of 30 meters⁵ and analysed, to understand the pressure of tourism on coastal areas. The results show a vast exploration of the coastal area of *Karfas* (Figure 38).

⁵ For the analysis of the Island's tourism accommodation, 30 meters was an estimated value for tourism accommodation construction in relation to the coast.

Figure 38. Chios' tourism accommodations analysis in a seaside resort



Source: Author Elaboration

From this analysis, it is possible to confirm the existence of nine accommodations very close to the beach areas and on the top of some cliffs, because the circle of thirty meters crosses the coast area and matches with the sea. This situation manifests against the fifth goal of the 2030 Agenda for Sustainable Development about the promotion of a sustainable use of the territorial ecosystems, mentioned on section 2.1.4.

On section 3.2.1, it was also mentioned the unplanned spread of recreational tourism activities (as resorts) on coastlines and that tourism resorts presents a morphology particular interest to analyse, where shops, large hotels and other facilities are very close to frontal amenities and other accommodations are located around. This is exactly what is happening in Chios Island. Moreover, in recent years, resorts have suffered a decline (Mathieson & Wall, 1982) and this is visible in Chios where old buildings are kept empty and degraded.

The next analysis, concerning tourism supply, is the transport sector. From this analysis, it is possible to understand that the bus company of the city provides long lines and no intermobility possibility to flights, to boats or to intercity bus. As an example, and supposing the following scenario, if a traveller from Athens would come by plane to Chios and arrive at 8:45pm and would like to catch the city bus to arrive to the tourism accommodation, there is no nocturne line to facilitate such mobility (Figure 39).

Furthermore, the same company does not provide a direct line for the airport. This situation incites a tourist behaviour of car rental during the length of stay, contributing to a more unsustainable mobility in the Island, which is opposite of the tenth and eleventh goals of the UN2030 Agenda.

Figure 39. Intermobility analysis⁶

Arrivals to Chios by flight		Arrivals to Chios by boat		City Bus Departures in Chios	Intercity Bus Departures in Chios
From Athens	6:15am	From Kavala	7:55am	8:30am 10:20am 11:05am 12:15pm 1:00pm 4:35pm 5:30pm 7:35pm	To Villages of <i>Pirgi, Mesta and Armolia</i>
	9:25am		9:15am		
	10:30am	From Forni	7:10am		
	10:40am				
	12:10am				
	7:00pm	From Ikaria	6:40am		
	8:45pm				
From Thessaloniki	12:10am	From Limnos	9:15am		
	1:50pm				
	5:20pm	From Mykonos	6:40am		
	5:30pm				
	7:00pm				
	7:40pm	From Mytilene	7:55am		
	7:50pm		10:30am		
	10:20pm		10:40pm		
From Samos	1:00pm				
	4:50pm	From Patmos	7:10am		
	6:00pm				
From Lemnos	8:50am	From Samos	6:40am		5:40am 11:00am 2:00pm
	10:15am				
	1:20pm				
	5:45pm	From Syros	6:40am		
			7:10am		
From Mytilene	8:50am	From Psara	5:00am		
	10:15am				
	1:20pm				
	5:45pm	From Oinousses	5:00am		
			8:20am		
			8:50am		
From Rhodes	1:20pm				
	2:20pm	From Athens	4:50am		
	4:50pm		5:00am		
	6:00pm				
From Crete	8:00am				
	4:50pm	From Çeşme	9:30am		
			10:00am		
			7:00pm		

Source: Author Elaboration

⁶ For the intermobility analysis, it was considered the schedules from Monday to Friday, during winter period, of the three modes of transport in Chios (airplane, boat, bus). It was examined the itinerary of the three flight companies which operates in Chios (Aegean Airlines/ Olympic Air, Sky Express and Astra), the five nautical companies (Hellenic Seaways, Blue Star Ferries, Turyol, ErturkLines and Syllogos FiloiOinoysson), the city bus routes which goes by the airport and port (Chios City Bus Company) and the intercity bus (Ktel Chios Company) with direction to the main villages of the Island (Pirgi, Mesta and Armolia).

Still giving attention to the mobility system on the Island, taxi prices are very expensive. Chios Radio Taxi company provides tourism services with specific tours, always from 30' to 60' minutes waiting, to the historical villages of the Island with prices that flow between 65€ to 120€.

The Island has a deficit of public infrastructure as sidewalks, cycle paths, signalized bus stops and illumination posts in certain streets on the mountains and on the pedestrian trails. Besides, most of the historical heritage buildings are degraded and are not attractive, creating insecurity for the tourist to walk around (see attachment).

Most of the tourism facilities need to be upgraded and this is the case, for instance, of the *Agiasmata* Thermal Waters. The facility is not pleasant and attractive, mainly because it does not provide a pool and is not accessible to disable people (see appendix). *Agiasmata* Thermal Waters are interesting for its well-being and health importance, in the treatment of diseases, since these waters come from springs in the north part of the Island with temperatures that rich 57,5°C, being a strong factor to promote health tourism during autumn or winter seasons.

To respond to visitor's needs, there is only one tourism office at the city centre, with limited schedules. When the visitor arrives, it is offered a bag with pamphlets about tourism products and companies that provide it, a map, a CD about the Island touristic offer and other guidebooks about Chios' Island, *Psara* and *Oinousses*.

So, besides the Island's potentials, tourism supply presents fragilities which can be combated with a long-term strategy for sustainable tourism development.

c) TOURISM PLANNING

The Municipality of Chios' Department of Employment, Maritime Affairs and Tourism is composed, on the period of the internship (2017), by a team of two workers addressing tourism sector: one at the tourist office and other professional dealing with internal concerns.

Other important DMO is the North Aegean Region Department of Tourism, where there are four workers dealing with marketing and promotion of the Island, assuming a position of social networks management and media connection.

As it was announced on section 3.4.3, for a sustainable tourism development of destinations, it is needed a team to apply a DMP, constantly monitor the process and be responsible for the sector. So, both situations show a critical human resources fragility for the sustainable development of the destination.

The lack of statistics is also a problem. With the lack of indicators and consequent data, it was not possible to understand where the destination is, being a problem for the understanding of the sustainable development challenges of the territory (announced above on section 3.4.).

The involvement and cooperation of stakeholders or local community in decision-making processes is also a work to be done. Not all the people want to be involved in these processes, which means they are not educated about the benefits of such interrelation and the culture of participation has still to be improved.

Concerning instruments of planning, the Island does not have a Land Use Plan (at the moment of the research, the Plan was on the process of creation) or a DMP, which clearly shows a lack of concern from the Municipality of Chios and other DMO's about tourism sector and its development. Additionally, it shows a lack of concern for a sustainable tourism development of the Island. However, the Municipality of Chios recognize the importance of building a such plans, by promoting the Erasmus+ program and by inviting students to participate on the internship in order to contribute with ideas for the tourism development.

Nevertheless, Chios recently approved a Strategical Plan for Urban Sustainable Development, in the context of the north-Aegean region strategy 2014-2020. The aim is to reinforce the development of the Island as a modern and attractive city to tourism and to transform it into a competitive territory. Squares renovations on the historical centre, accessibilities improvement and restauration of buildings are some of the projects which are being applied to concretize the goal, that begun in 2017, with a budget of 8,5 million of euro.

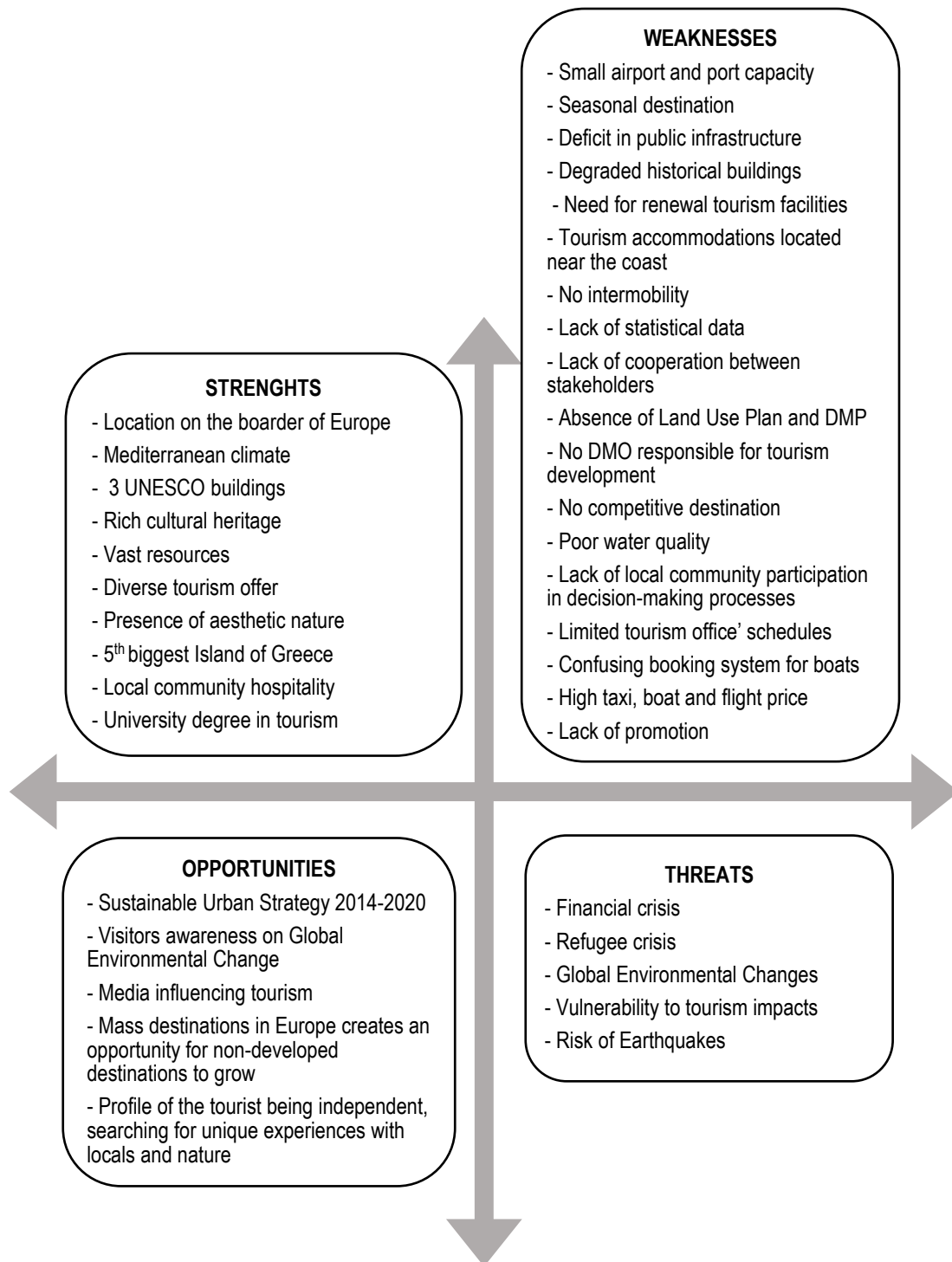
4.1.5. SWOT ANALYSIS

According to what has been described, Chios has weaknesses to minimize and several potential to explore, for a sustainable tourism development (Figure 40).

The internal aspects of Chios as a tourism destination show a vast potential in terms of resources, nature, cultural heritage, location and climate, allowing the tourist to spend more than 4 days on the Island (one week ideally, according to the stakeholders) and visit it during all year. At the same time, it shows the existence of some difficulties that the DMO's must combat to develop the tourism sector in a sustainable way. For instance, and as referred before, the Island does not provide a land use plan for the territory or a plan for the tourism sector; historical buildings are degraded and some tourism facilities are not prepared for disable people; stakeholders do not cooperate and do not participate in decision-making processes; there is few statistical data and it is a seasonal and uncompetitive destination so far.

Besides the financial and humanitarian crisis, its vulnerability to earthquakes and to global environmental changes as well as to tourism impacts (for being an Island and referred on section 3.2.1.), Chios must adopt an approach based on the external opportunities and take advantage on the profile of tourists being more interested in the contact with locals and nature.

Figure 40. SWOT analysis of Chios' destination

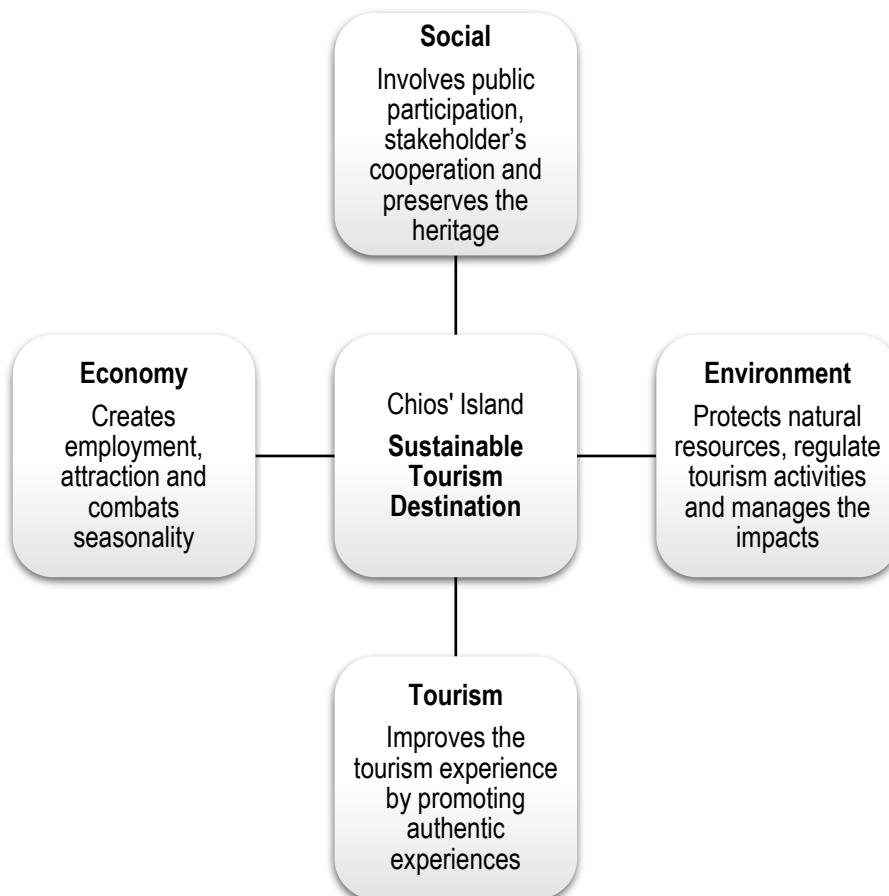


Source: Author Elaboration

4.2. VISION

Taking into consideration the results from the diagnosis phase and consequent SWOT analysis, the vision for Chios was established (Figure 41).

Figure 41. Vision for Chios' destination



Source: Author Elaboration

As Figure 41 reveals, the vision was divided according to the three pillars of sustainability: environmental development, social and cultural development, economic development and a pillar for tourism activity development. According to it, Chios should apply actions to protect the local natural resources, by regulating tourism activities and to manage the impacts that tourism creates or can create in the future. It should also involve local community and other stakeholders in decision-making tourism processes, incite their cooperation, respond to their needs and protect the cultural heritage and territory traditions. For the Island's economic development, the responsible DMO's should promote attraction and worldwide recognition. In result of that, the Island would have new job opportunities, would increase competitiveness and combat seasonality. And the

tourism experience would be improved by providing an authentic experience for visitors, by contributing for a unique tourism experience of tourists and locals and increase, in this way, fidelity.

In a general point of view, the expected results would be the decreased of the internal weaknesses of the Destination, announced on the SWOT analysis, by taking advantage of the Island's potentials.

4.3. ACTION PLAN

Concerning this proposed vision, 5 goals and 29 actions were defined for a sustainable tourism development of Chios' Island following the theoretical framework proposed in part 3.4.2: 1) Environmental Protection; 2) Social and Cultural Development; 3) Economic Dynamism; 4) Tourism planning and management; 5) Tourism activity Development (Figure 42).

Figure 42. Action Plan for Chios' Island



Source: Author Elaboration (Buckley, 2012; Chan, 2010 in Globe '90 Conference; Global Sustainable Tourism Council, 2013; Swarbrooke, 1999; UNWTO, 2015; UNWTO, 2018b; UNWTO & OAS, 2018; World Summit on Sustainable Tourism, 2015)

The first goal is related with environmental protection. To accomplish such goal, eight strategical actions were selected (Figure 43):

Figure 43. Action Plan for Chios' destination: Environmental protection goal 

SWOT RESULTS	ACTIONS PROPOSALS
Tourism accommodations located near the coast	1.1. Prohibit the construction of accommodations, restaurants and cafes as well as other tourist facilities at a minimum distance from the coast 1.2. Implement systems to clean the beach areas in the whole year
Vast resources	1.3. Guarantee the protection of <i>mastiha</i> trees cultivation 1.4. Incite tourism accommodations to provide clean and efficient energy and water consumption systems and adopt reduce, re-use and recycle policies in their facilities 1.5. Restrict the use of public space by tourism businesses on the archaeological protected areas and beach zones 1.6. Implement regulations of tourism water activities
Global environmental change	1.7. Develop a system to encourage enterprises to report and reduce their greenhouse gas emissions
Poor water quality	1.8. Create regulations to increase the quality of water consumption

Source: Author Elaboration (Buckley, 2012; Chan, 2010 in Globe '90 Conference; Global Sustainable Tourism Council, 2013; Swarbrooke, 1999; UNWTO, 2015; UNWTO, 2018b; UNWTO & OAS, 2018; World Summit on Sustainable Tourism, 2015)

The diagnosis of the Island concludes that some tourism accommodations are located near the coast. As it was discussed on section 2.2.1 about tourism impacts, this specific problem can lead to irreversible damages to the environment, deteriorating the cliffs and increasing the risk of erosion. Therefore, local government should discuss which should be the minimum distance of construction of tourism businesses from the coast (Goal 1.1.).

Similarly, the Municipality should apply policies to protect beach areas from restaurants, cafes and bars, by delineating a limit number of privatized businesses in every beach. This would guarantee everyone's access to public spaces and reduce inequalities (Goal 1.5.).

During the trips around the Island, refugee life-jackets were found in some beaches (visible on the index). Planners should apply a system to guarantee the cleanness of Chios' beaches during all year, to improve tourism experience but also to protect water ecosystems (Goal 1.2.).

Mastiha has a precious value to the Island as a competitive advantage so it is crucial to be protected by law, regarding its cultivation, management, tourism activities exploitation and prevent it to fires and other natural catastrophes (Goal 1.3.).

The next proposed political-action is related with water quality. In Islands, water systems tend to be a critical problem. Tourism can play an important role in achieving water security and quality to all. In Chios, the pipe waters are non-drinkable and can lead to serious health problems, if drinkable, as announced before. To solve this problem, it should be created regulations to ensure water treatment (Goal 1.8.). This would also incite the reduction of the plastic bottles consumption and guarantee health safety for the visitors and locals, especially for the ones who cannot afford drinkable water from the supermarkets and markets. So, in the case of Chios' Island, this goal is particularly important.

Still giving importance to the water use and management of the Island, but in the perspective of tourism, Chios' tourism activities are mainly dependent of this natural resource. Activities such as sailing, yachting, fishing, scuba diving, kayak and thermal baths can be regulated to make sure the use of water does not cause any damage to the environment in terms of overfishing, water pollution and destruction of species (Goal 1.6.).

Increase the quality of energy consumption is other goal to be taken in this propose strategy. Under a strategical sustainable approach and the dependence on every stakeholders' approach and action, the government must incite tourism professionals to provide ecological energy systems in their services as well as motivate for re-use, reduce and recycle policies (Goal 1.4.). They should also be pushed to report their green gas emissions, by monitoring their activities, especially the professionals who work with transports' sector (Goal 1.7.).

Regarding social and cultural development, seven main strategical actions were designed (Figure 44):

Figure 44. Action Plan for Chios' destination: Social and cultural development goal ☹

SWOT RESULTS	ACTIONS PROPOSALS
Rich cultural heritage	2.1. Promote an annual calendar of events to valorise local culture and resources
Lack of local community participation in decision-making processes	2.2. Create thematic meetings with locals about tourism
Refugee crisis	2.3. Implement an agreement with flight companies of free luggage to carry help for refugees
University degree in tourism	2.4. Create a program of tourism at school with direct access to the University
Social exclusion	2.5. Develop a program for locals to travel in the Island during summer
Refugee crisis	2.6. Incite volunteer tourism activities
Profile of the tourist searching for unique experiences with locals and nature	2.7. Promote rural tourism activities, related with ecotourism, agritourism and other alternative segments

Source: Author Elaboration (Buckley, 2012; Chan, 2010 in Globe '90 Conference; Global Sustainable Tourism Council, 2013; Swarbrooke, 1999; UNWTO, 2015; UNWTO, 2018b; UNWTO & OAS, 2018; World Summit on Sustainable Tourism, 2015)

Already on the social parameter, it was thought about the creation of an annual calendar of events for locals and tourists, to take advantage of the traditions and activities during all year, in various parts of the Island (Goal 2.1.). Activities during Friday night and on weekends, from sportive festivals to dance and music are some of the examples. Also, fairs and markets of local products, organized by the Municipality who would invite local farmers and artisans to the exhibitions, including these stakeholders in the tourism value chain. An extra point for this action should be the arrangement of a sound system providing English translation during the events. Not only this activity would increase the connection between local culture and tourists and, consequently, create a positive impact but would also create attraction and increase the injection of direct flux of tourism revenues into farmers, by promoting the culture and intangible heritage of the Island.

Other important action would be the involvement of local community in public participation for Tourism, by creating a program of focus groups and thematic meetings, frequently (Goal 2.2.). Also, create conferences and exhibitions about tourism in the Island, for instance, from 6 up to 6 months, opened to everyone. The municipality could have an important role by sensitizing farmers and other elements of civil society to the benefits of involving the tourist in their daily routines of producing local products. In this way, it would be promoted a more authentic tourism experience in the Island.

An agreement with associations of refugees and tourism professionals is the next goal. As example, involve refugees in the concept of “Free Hiking Tours”, explaining myths and legends associated to the trails, as well as historical facts during the tour. This would not only delete the negative image of the Island related with refugees but also contribute to a more comprehensive interpretation of cultures and interrelation between them.

The UN third goal is related with health and well-being. Political decision-makers can use tourism segments to improve the well-being of communities. As an example, volunteer tourism can be incited in Chios, inviting people from all over the world to help refugees and rural communities in the Island (Goal 2.6.). As it was mentioned on top, in the last few years, Chios received volunteers all of the world to help refugees on Suda camp and Vial hotspot or work on shelters with associations. This helped, in a way, the tourism development. So, take advantage of the culture comprehension this process generates, government should incite volunteer type of tourism.

Other idea is to stablish an agreement with flight companies to allow the tourists to carry free luggage, to provide books, clothes and other offers to the refugees (Goal 2.3.).

Related with education, the Island provides a technical course of Tourism, but it is not possible to succeed to the University immediately, after graduation. The idea is to facilitate this process, incite students to apply for the Tourism Graduation at the University of the Aegean of Chios as well as raise awareness about the benefits of Tourism (Goal 2.4.). For that reason, it should be created a program at school with access to the University and give the opportunity to students be involved in activities for Tourism in the Island during the period of the program. At the same time, it should be created a social program for people with low income to travel around the Island (Goal 2.5.). Even though, the Municipality already provides a program for old people during summer, this would be a more dynamic and continuous exercise during the period of implementation of the DMP.

Still focusing on educate community and visitors about the benefits of tourism, an official guidebook about Chios sustainable tourism destination with practices for tourist behaviour and locals about climate change and heritage preservation must be created.

Concerning the second goal of the UN agenda in promoting sustainable agriculture, Chios can incite the development of agritourism activities. For its vast rural areas and natural resources, visitors can participate in the agriculture production tours, together with locals (Goal 2.7.).

The next goal intends to promote economic dynamism on the Island with five main actions (Figure 45):

Figure 45. Action Plan for Chios' destination: Economic dynamism goal ☹

SWOT RESULTS	ACTIONS PROPOSALS
	3.1. Implement programs of incentives for tourism businesses (local companies, tour agents, tourism accommodations, etc.) to develop in rural areas of the Island
Small airport and port capacity with high prices	3.2. Reinforce the project of requalification of the airport
No competitive destination	3.3. Increase the number of flights and international-charter flights as well as international trips by boat
Media influencing tourism	3.4. Implement processes to connect with key-travel agencies and media
	3.5. Increase tourism connections with Psara and Oinousses Islands

Source: Author Elaboration (Buckley, 2012; Chan, 2010 in Globe '90 Conference; Global Sustainable Tourism Council, 2013; Swarbrooke, 1999; UNWTO, 2015; UNWTO, 2018b; UNWTO & OAS, 2018; World Summit on Sustainable Tourism, 2015)

As we know, tourism has a very important role on the creation of destinations' economic growth and combat poverty, especially because the jobs it creates. In this sense, the first proposal action of the economy dynamism goal (Goal 3.1.) would be the creation of programs of incentives for local companies, tour agents or hotels to grow in rural areas of the Island. This would increase attraction to other parts of the Island non-explored and combat social exclusion and loneliness in regions as *Agiasmata* (where population is very low, according to interviewed stakeholders), at the same time as would increase social cohesion of the territory.

Taking into consideration the project already being done to connect Chios with Europe and the rest of the World, one of the proposal actions is to reinforce the project of requalification of the airport (Goal 3.2.). This means: expand the plane track, rehabilitation of the plane track, expansion of the parking lot for aircraft and construction of a new terminal with comfortable benches, free Wi-fi, new coffee shops and restaurants. After this process, the concern should be: increase the number of flights and international-charter flights as well as international trips by boat (Goal 3.3.). As it was discussed on section 2.2.1., aviation is one of the main drivers of CO₂ emissions. However, the reconstruction of Chios' airport and the growth of international flights is crucial for the Island' tourism development but especially for the Islands' state of isolation. In such vulnerable earthquake territory, locals need to have good infrastructures and emergency way outs from the Island. So, even though the damages it causes to the environment, it is important to develop such infrastructure to guarantee security in the territory.

A more sustainable way of approaching can be pass through the development of the existent Chios *Mesta* Porto. Something that can be discussed by the DMO's and other stakeholders. Investing in *Mesta* port for cruise

ships would be a good alternative to not damage such fragile port in the city centre and bring more tourists. And create better international connections by boat, with faster trips and new schedules allowing intermobility modes, when traveller arrive in the Island.

Moreover, the Municipality could discuss the possibility of increasing connection with *Psara* and *Oinousses* Islands (Goal 3.5.), to create new and alternative offers and promote peace and cooperation between these three Islands.

The promotion of the Destination is crucial, especially in less developed tourism regions as Chios (Goal 3.4.). Organize press trips and participate in national and international fairs of tourism, for instance. Even though these last actions are already being taken by the North Aegean Region Tourism authority, through its presence on tourism fairs and through the invitation of foreigner journalists to visit the Island, Chios should present itself as a competitive sustainable destination to them and reinforce this operation. In this sense, Chios needs to improve the connection between tourism agencies of key-markets. This would be an important step for worldwide recognition. Actions as the creation of a marketing plan to improve attractivity and promotion are some of the examples of proposal actions.

Figure 46. Action Plan for Chios' destination: Planning and land use management goal 

SWOT RESULTS	ACTIONS PROPOSALS
Lack of statistical data	4.1. Collect data about tourism to monitor the cultural, social, environmental and economic impacts and trends and locals' satisfaction about tourism
Seasonal destination	4.2. Implement a technological system to manage the numbers of visitors coming to the Island
Low number of employers at the Municipality Tourism Department	4.3. Hire professionals for the Department of Tourism of the Municipality of Chios to coordination of tourism, to develop a plan for tourism in the Island and to monitor the process
Absence of Land Use Plan and DMP	4.4. Include policies for sustainable tourism development in the Municipality Land Plan
Lack of cooperation between stakeholders	4.5. Create an observatory of tourism to incite debates, conferences, seminars and focus-groups with various professionals of Chios

Source: Author Elaboration (Buckley, 2012; Chan, 2010 in Globe '90 Conference; Global Sustainable Tourism Council, 2013; Swarbrooke, 1999; UNWTO, 2015; UNWTO, 2018b; UNWTO & OAS, 2018; World Summit on Sustainable Tourism, 2015)

Planning and land use management is the next goal (Figure 46). Chios Municipality needs to invest on the creation of a Land Use Plan and orientate with policies for Sustainable Tourism Development (Goal 4.4.).

Policies such as restriction of public space use by tourism businesses, occupying the archaeological pavement areas, as announced before. This situation is currently happening on the historical area of the city centre of Chios' city, where cafes and restaurants use the public space to promote their businesses on a recovered square with a pavement floor from byzantine period.

Government must also create regulations for architectural housing heritage protection from tourism use in villages as *Mesta*, *Olimpi* and *Pirgy*, for its heritage importance, mentioned on section on top.

Still regarding about policies to be applied, it is critical that tourism policy-makers take measures or create a strategical plan to prevent the risk of earthquakes and other natural disasters. It will also be included emergency actions for inhabitants and visitors which would not only improve the tourism sustainable image of the destination but also everyone's security.

To accomplish the creation of a Land Use Plan and Tourism Plan, it is needed people. As it was announced before, the Municipality of Chios does not have enough people hired to work on Tourism Department and Tourism Office, which difficult the process of applying such strategy as a DMP. So, hire professionals (Goal 4.3.) to develop such plan, to monitor tourism impacts and to receive tourists would be a goal to take.

Related with monitoring social, economic and environmental impacts of tourism, this is the most important part of any strategy for sustainable development, by collecting statistical data continuously, during the process (Goal 4.1.). This would help the Destination to provide a better tourism experience through time as well as reducing negative impacts of tourism.

Next goal intends to be a tool empower population and stakeholders' involvement. So, the solution passes through the creation of a tourism observatory (through debates, focus-groups, seminars and conferences between professionals) (Goal 4.5.). It would improve the participation of all stakeholders (man, women, indigenous people) in decision-making processes, increase their auto-esteem, raise stakeholders' awareness for the benefits of tourism and, perhaps, enable cooperation among private and public investors. It would be a path for the gathering of statistical data, which was a problem in the moment of this research. This will also allow the evaluation of the destination performance and reduce future negative impacts.

An innovative approach should be the implementation of a ticketing system to control the number of visitors at the museums and sites (Goal 4.2.). This action would provide better management of tourism impacts, by distributing the tourist through all the Island, as well as combating seasonality. With this system, visitors can visualize the number of tourists inside the attractions and choose to buy the less crowded hour to visit. It would raise awareness of tourists and locals for a sustainable development of the Island.

Finally, the tourism activity would be managed through the appliance of four main strategical actions (Figure 47):

Figure 47. Action Plan for Chios' destination: Tourism activity by itself goal ○

SWOT RESULTS	ACTIONS PROPOSALS
	5.1. Improve tourism signalization
Limited tourism office' schedules	5.2. Create new tourism offices, with new opening hours
Deficit in public infrastructure	5.3. Create cycle paths and provide adequately signalized bus stations
	5.4. Facilitate the visa documentation processes for Turks to visit Chios during all year

Source: Author Elaboration (Buckley, 2012; Chan, 2010 in Globe '90 Conference; Global Sustainable Tourism Council, 2013; Swarbrooke, 1999; UNWTO, 2015; UNWTO, 2018b; UNWTO & OAS, 2018; World Summit on Sustainable Tourism, 2015)

The aim is to improve the tourism experience, by remodelling tourism signs, basic infrastructures, facilities and services, making it accessible to everyone, especially to disable people, as the goal 10 of sustainable development claims for. Examples of proposal actions are the colocation of signs to give direction for the Tourism Office (Goal 5.1.) and implementation of new tourism offices, with new opening hours (Goal 5.2.). At the trails, provide information about fauna, flora and historical aspects of the Island. And on tourist attraction points, provide also information about the cultural asset (for example, on Sanctuary of Kybele).

The Island should incite soft mobility (Goal 5.3.). Looking at the potential of the city centre as a plan floor to cycle, the idea is to create cycle paths in some parts of the city and instigate it for tourism use. In this way, all the mobility system had to be re-designed, as well as the routes of the bus and its service parameters. The bus stations must be signalized adequately, and it should be created a unique route with nocturne line for the airport. In terms of providing information to the tourist, the schedules would be re-designed with easy English reading, in each station, and to match with the hours of flights and ferries and allow intermobility.

The thermal waters building spa of *Agiasmata* does not provide a pool. It is important to renovate such building. This would attract visitors and develop such rural area, with low number of inhabitants.

As Turkish tourists are a key-target group to continue focusing on, an important process to concretize could be the facilitation of the documentation process for them to visit Chios, during all year (Goal 5.4.).

Last aspect thought would be the creation of a guidebook with practices for tourism behaviour, tourism professionals and locals about climate change adaptation and heritage preservation (Goal 5.5.).

Shortly, these are the kinds of actions that would improve the tourism experience, increase satisfaction and fidelity to the destination, provide better security conditions, raise the well-being of the local community and protect natural resources and cultural heritage.

4.3.1. ACTION PLAN FOR CHIOS' ISLAND AND THE UN 2030 AGENDA

The following figure (Figure 48) shows how the proposal actions for Chios would directly or indirectly influence the accomplishment of the UN2030 Goals for Sustainable Development and result, in this way, not only for the Island's tourism development but for its sustainable development, which is the main goal of this empirical chapter.

Figure 48. Action Plan for Chios' destination and its relationship with UN sustainable development goals



Source: Author Elaboration (United Nations, 2015; UNWTO, 2015)

The first goal of the UN 2030 Agenda is related with combating poverty and guarantee the access for basic needs to everyone. According to UNWTO (2015) sustainable tourism development can have results in this goal by promoting entrepreneurship and small businesses and empowering less favoured groups. Regarding these positive consequences, action 2.3. was selected as an efficient proposal. The idea of the action is to stablish an agreement with flight companies to allow tourists to carry free luggage, to provide books, clothes and other offers to the refugees on the Island. This will empower this specific social group of the Island and provide basic

daily objects into their lives, which they do not usually have access to it. Not only action 2.3. but also 3.1. was selected to match with this 1st goal of the UN Agenda. By creating incentives for local companies, tour agents or hotels to grow in rural areas would empower less populated communities of the Island.

Action 2.1. suggests the creation of fairs to include local farmers and artisans in the tourism value chain. This proposal action meets with the second goal of the Agenda. According to it, government must end hunger and promote sustainable agriculture and tourism can promote the local productivity and include it into the tourism value-chain. Plus, action 2.7., related with agritourism activities, will invite visitors to participate in the agriculture production tours, together with locals and create a bigger impact on the local economy.

Goal 3 of the Agenda promotes health and well-being of everyone. Tourism economic growth can contribute, through income, on the reinvestment in health care and services (UNWTO, 2015). But can also have a direct contribution to the wealth-being of communities. That's the case of the goal 2.6. of the Action Plan. By promoting volunteer tourism activities in Chios, tourists would help refugees in activities and contribute for their daily-life well-being.

Build societies with equal opportunities and training processes is the goal number 4. According to UNWTO (2015), a well-trained and skilful workforce is crucial for tourism to prosper. So, goal 2.4. of the action plan intends to facilitate the process of learning about tourism in Chios by creating a program at school for everyone to have access to the University and result in a must easier process to ingress the academic life.

Gender equality and society empowerment must be promoted, according to UN five goal. In Chios, tourism can be developed in a more participative way by including men, women, indigenous people and even those who are not devoted to the tourism sector into the debates, focus-groups, seminars and conferences about tourism, within the observatory of tourism creation (action 4.5.).

Goals 6 is related with water sanitation. In this sense, action 1.2. would have positive impacts on water systems by guarantying the cleanness of Chios' beaches during all year. Action 1.8. would also have impact on the water quality, by creating regulations to ensure water treatment.

Action 1.4. relates with goal 7 for being an example of shifting towards a sustainable use of energy, be reducing greenhouse gas emissions, mitigating climate change and contributing to innovative and new energy solutions in urban, regional and remote areas (UNWTO, 2015). Action 1.4. is about inciting clean and efficient energy and water consumption systems and adopt reduce of tourism accommodations, re-use and recycle policies in their facilities.

Action 3.3. (increase the number of flights and international-charter flights as well as international trips by boat) is an important action to guarantee sustainable economic growth of the Island (Goal 8), because a bigger number of flights are crucial for the Island to evolve.

UN (2015) 9th Goal intends to “Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation”. Action 3.2. (requalification of the airport) and action 4.2. (technological system to control number of visitors) will provide exactly that.

Reduce inequalities is the tenth goal of the United Nations. By limiting privatized business in beach areas, action 1.5. will provide everyone’s access to public space. Action 2.5. will also give access to those who cannot afford travelling, by establishing a social program for people with low income to travel around the Island. Action 5.4. (facilitate the documentation process of Turkish tourists) will provide the same opportunity of visiting the Island to Turks tourists as other European tourists and reduce, in this way, inequalities. And, finally, action 5.1., by improving tourism signalization, it will be accessible to everyone, from non-Greek speakers to deaf people (e.g. colour codes for colour-blind people).

Make cities more sustainable with advance infrastructure, cultural and natural heritage preservation and with measures to reduce pollution of transport facilities is the goal 11. Action 1.1. (prevent construction of tourism business on coastal areas), action 4.4. (create policies for sustainable tourism development) and action 5.3. (cycle-paths proposals) are some of the strategical actions to match with such UN Goal.

Goal 12 is focused on sustainable and responsible consumption, so tourism must develop tools to monitor sustainable development impacts. This is precisely the objective of the action 4.1., for being a contribution for the collection of social, economic and environmental impacts of tourism.

Tourism can have an important role in controlling waste and sound pollution, inciting renewable energy implementation and mitigating climate change in policies implementation (Goal 13). Chios’s planners must promote monitoring of tourism activities and incite companies and institutions for renewable energy consumption and to report their greenhouse gas emissions (Action 1.7.).

For being dependent on water, Chios’ tourism water activities need to be regulated to not fragile marine ecosystems (action 1.6.) which is what the 14th goal of the UN 2030 Agenda claims for.

According to UNWTO (2015), goal 15th is about protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss and sustainable tourism can play a major role, not only in conserving and preserving biodiversity, but also in respecting terrestrial ecosystems, owing to its efforts towards the reduction of waste and consumption, the conservation of native flora and fauna, and its awareness-raising activities. The goal 1.3. intends to be exactly that, by protection *Mastiha* trees regarding its cultivation, management, tourism activities exploitation and prevent it to fires and other natural catastrophes.

Promote peace and inclusive societies is the 16th of the Agenda. With the appliance of the action 2.2., the creation of conferences and thematic meetings about tourism in the Island, tourism policy bodies would create

cooperation between stakeholders, strengthen cultural identities and spur entrepreneurial activities prevent violence and conflict and consolidate peace (UNWTO, 2015).

Tourism can accomplish the last goal of UN 2030 Agenda by strengthen private and public partnerships and engage multiple stakeholders – international, national, regional and local (UNWTO, 2015). Goals 3.4. and 3.5. were chosen to match with this 17th of the UN Agenda, by suggesting a better connection with *Psara* and *Oinousses* Island, creating new and alternative offers and promoting peace and cooperation between these three Islands. But also in organizing press trips and participate in national and international fairs of tourism.

Goal 5.2. (new tourism offices with new opening hours) does not have a specific effect on the accomplishment of the UN 2030 Goals because it was specifically designed to improve the tourism experience by itself. However, it can be connected with the 11th Goal of Sustainable cities and communities.

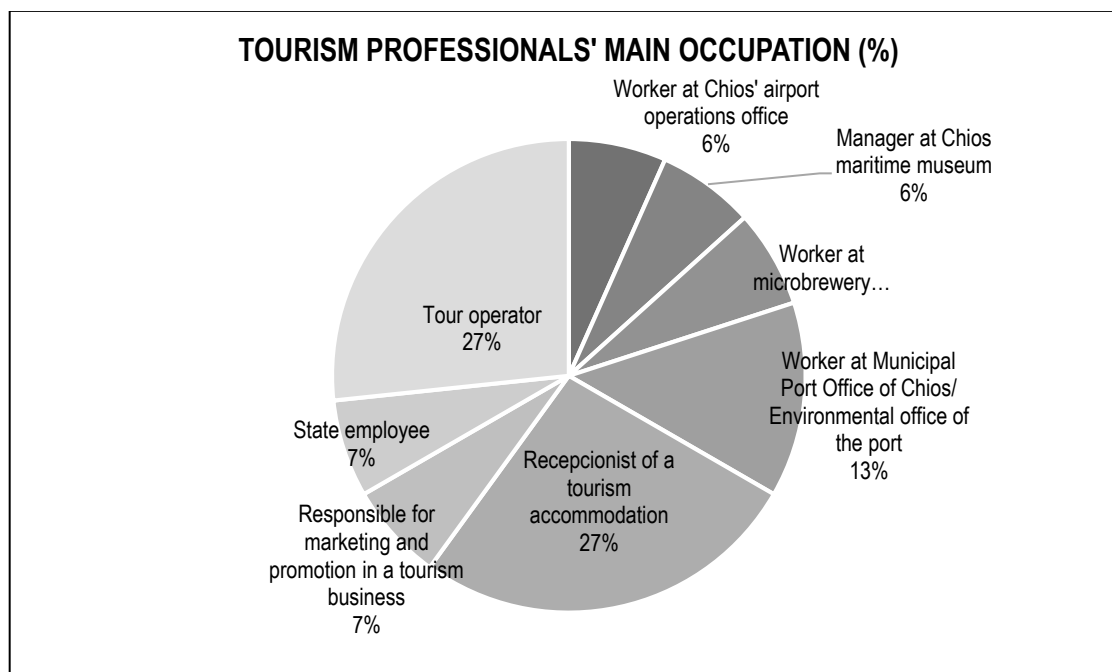
To finish this section, it is possible to conclude that most of the proposal actions matches with more than one goal of the UN Agenda. Figure 48 only exemplifies some of them. As an example, action 3.1. was selected to match with the Goal 1 for having an impact in combating poverty and empowering rural communities. However, it also has a strong impact on the economy growth of the Island, so it could be matched with the goal number 8 of the UN Agenda.

Shortly, the proposal actions for Chios, if applied, would have successful positive impacts towards the sustainable development.

4.4. SYSTEM OF IMPLEMENTATION – QUESTIONNAIRE ANALYSIS

A questionnaire was developed to perceive tourism professionals' opinion about the proposal actions. In a total of 99 contacted entities, 15 complete answers were received by the tourism professionals (15%), from different areas of tourism (Figure 49).

Figure 49. Tourism professionals' job activities



Source: Author Elaboration

From Figure 49, it is possible to confirm that most of the surveyed professionals work as tour operators (27%) and as receptionists (27%). These surveyed professionals have between 25-44 years old and between 45-64, corresponding to 47% and 40% of the answers, respectively, and there was only one answer from a professional with the age of 18-24. Most of them have bachelor's degree (47%) and master's degree (27%) or completed high school (20%).

To perceive the opinion of the professionals about Chios tourism products, question 2.1. of the questionnaire (see appendix) was analysed. The tourism professionals that answered the questionnaire consider that beaches and medieval villages are the most important elements of the Island that tourist appreciate the most, representing an average of 4,6, meaning a "relevant or totally relevant" element for the Island. Additionally, 33,3% consider that mountains and hiking trails are "totally irrelevant or irrelevant" and 13,3% consider the same for the immaterial heritage of the Island (Figure 50).

This brings into evidence the need for promoting other segments of tourism, besides sea, sun and sand type and to establish new tourist target markets, more related with alternative type of tourism, to valorise immaterial heritage and local nature resources, such as mountains.

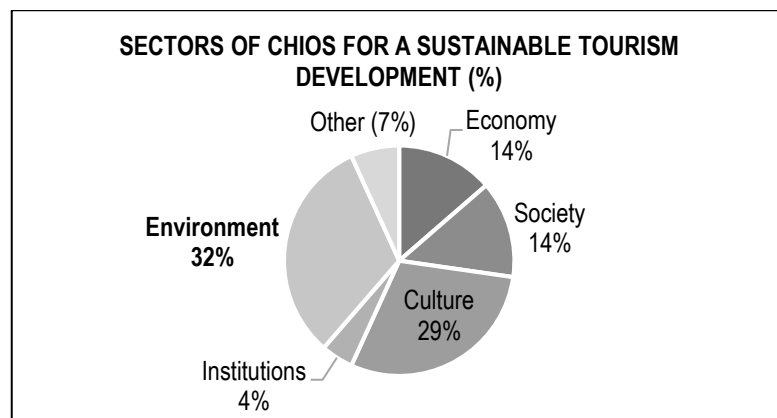
Figure 50. Perceptions about tourism products of Chios from tourism professionals

Elements of the Island	N	Relative Frequency (%)			Average	Standard deviation
		Totally irrelevant/irrelevant	Not irrelevant or relevant	Relevant/totally relevant		
Museums	15	13,3	46,7	40	3,4	0,91
Beaches	15	0	0	100	4,6	0,507
Mountains and hiking trails	15	33,3	33,3	33,4	2,93	1,163
Cathedrals, monasteries and churches	15	0	46,7	53,3	3,67	0,724
Medieval villages	15	0	13,3	86,6	4,6	0,737
Gastronomic products	15	20	0	80	4,13	1,187
Events and immaterial heritage	15	13,3	26,7	60	3,4	1,121
Other	15	46,7	33,3	20	2,6	1,183

Source: Author Elaboration

In order to perceive tourism professionals' opinion about the concept of sustainable development and, consequently, about the proposed vision of Chios' Island, Figure 51 was designed.

Figure 51. Perceptions on sustainable tourism development concept from Chios' tourism professionals



Source: Author Elaboration

32% of the surveyed professionals believe that environment is a very important sector for a sustainable tourism development and 29% agree on the importance of culture as well.

Figure 52 illustrates their opinion about the impacts of tourism in Chios. Around 93% of the surveyed professionals agree that tourism is seasonal and 60% considered as an uncompetitive destination:

Figure 52. Perception about the impacts of tourism in Chios

Impacts of tourism in Chios	N	Relative Frequency (%)			Average	Standard Deviation
		Strongly disagree Disagree	Do not disagree or agree	Agree Strongly agree		
Tourism in Chios is seasonal	15	0	6,7	93,3	4,47	0,64
Chios is an uncompetitive destination	15	20	20	60	3,73	1,163
In the future, without proper manage, tourism in Chios can contribute to the destruction of fauna and flora and degradation of monuments	15	20	40	40	3,33	1,345
The development of tourism in Chios promotes cultural exchange which benefits rural areas and low populated villages	15	6,7	26,7	66,7	4,07	1,033
The development of tourism is a way to improve the Island's appearance and to requalify degraded buildings and monuments	15	6,7	13,3	80	4,13	0,915
To serve the tourists, the Island must improve public transports and public utilities infrastructures, which will benefit also locals	15	0	6,7	93,3	4,67	0,617
It is important for the tourism sector in Chios to support the use of fossil fuels for its activities	15	13,3	46,7	40	3,47	0,99
Tourism in Chios should not modify the social structure of the Island	15	13,4	6,7	80	4,2	1,265
Improvement of tourism in Chios would increase the connection with European countries and the rest of the world, combating the self-exclusion state of living and developing self-esteem of local community	15	6,7	13,3	80	4,13	0,915
Tourism in Chios can create a fake culture sense based on non-traditional practices as a strategy to attract visitors and promote the loss of cultural authenticity	15	53,4	26,7	20	2,47	1,246
Tourism in Chios is accessible for people with less physical abilities	15	46,7	26,7	26,7	2,87	0,99
The future growth of Chios' tourism may lead to visual, noise, air and water pollution, degradation of geological elements of nature and loss of green spaces	15	53,4	33,3	13,3	2,33	1,047

Source: Author Elaboration

Tourism stakeholders were asked to give their opinion to the 29 proposal actions, announced on section 4.3., according to Linkert scale, from 1 meaning “totally irrelevant” and 5 meaning “totally relevant” (Figure 53). To facilitate the understanding of such action Plan, instead of 29 actions, the question 5.1. of the questionnaire was spread to 31 actions (see appendix).

Figure 53. Results about the importance of the proposed measures from Chios tourism professional's opinion

Policies for sustainable tourism		N	Relative Frequency (%)			Average	Standard Deviation
			Totally Irrelevant	Not irrelevant	Relevant		
			Irrelevant	Not Relevant	Totally relevant		
Social Development	Promote an annual calendar of events to valorise local culture and resources	15	20	13,3	66,7	3,73	1,1
	Create thematic meetings with locals about tourism	15	6,7	26,7	66,6	3,93	0,961
	Implement an agreement with flight companies of free luggage to carry help for refugees	15	6,7	40	53,3	3,6	1,056
	Create a program of tourism at school with direct access to the University	15	0	20	80	4	0,655
	Develop a program for old residents to travel in the Island during summer	15	13,3	13,3	73,3	4	1,069
	Incite volunteer tourism activities	15	0	20	80	4,13	0,743
Environmental Protection	Promote rural tourism activities, related with ecotourism, agritourism and other alternative segments	15	6,7	6,7	86,6	4,47	1,125
	Prohibit the construction of accommodations, restaurants and cafes as well as other tourist facilities	15	20	13,3	66,7	3,87	1,356
	Implement systems to clean the beach areas in the whole year	15	13,3	13,3	73,4	4,07	1,1
	Guarantee the protection of <i>mastiha</i> trees cultivation	15	13,4	6,7	80	4,27	1,28
	Incite tourism accommodations to provide clean and efficient energy and water consumption systems	15	13,3	0	86,7	4,33	1,047
	Restrict the use of public space by tourism businesses on the archaeological protected areas and beach zones	15	20	13,3	66,7	3,53	1,302
	Implement regulations of tourism water activities	15	6,7	6,7	86,6	4,13	0,834
	Create regulations to increase the quality of water consumption	15	13,3	20	66,6	3,87	1,06
Economic Dynamism	Develop a system to encourage enterprises to report and reduce their greenhouse gas emissions	15	6,7	20	73,4	3,93	0,884
	Implement programs of incentives for tourism businesses to develop in rural areas of the Island	15	6,7	13,3	80	4,13	1,125
	Reinforce the project of requalification of the airport	15	6,7	6,7	86,7	4,2	1,082
	Increase the number of flights and international-charter flights as well as international trips by boat	15	0	6,7	93,4	4,6	0,632
	Implement processes to connect with key-travel agencies and media	15	13,4	6,7	80	4,2	1,265
Tourism activity by itself	Increase tourism connections with <i>Psara</i> and <i>Oinousses</i> Islands	15	6,7	20	73,4	3,93	0,884
	Improve tourism signalization	15	13,4	20	66,6	4	1,309
	Create new tourism offices, with new opening hours	15	13,3	26,7	60	3,67	0,976
	Incite the participation of target groups in international and national fairs of Tourism	15	13,3	20	66,6	3,87	1,06
	Create a guidebook with practices for tourist behaviour, tourism professionals and locals	15	6,7	20	73,3	3,73	0,961
	Create cycle paths and provide adequately signalized bus stations	15	13,4	6,7	80	4,13	1,246
	Facilitate the visa documentation processes for Turks to visit Chios during all year	15	6,7	20	73,3	4,27	1,033
Planning and land use management	Collect data about tourism to monitor the cultural, social, environmental and economic impacts	15	6,7	26,7	66,7	3,8	1,082
	Implement a technological system to manage the numbers of visitors coming to the Island	15	13,3	6,7	80	3,93	0,961
	Hire professionals for the Department of Tourism of the Municipality of Chios	15	13,4	13,3	73,4	3,8	1,146
	Include policies for sustainable tourism development in the Municipality Land Plan	15	6,7	13,3	80	3,87	0,99
	Create an observatory of tourism	15	13,4	13,3	73,3	4,13	1,302
Others: Create a protected area for Kampos region (the "Tuscany" of Chios)		1					

Source: Author Elaboration

In general, professionals of Chios considered the proposed measures as relevant or totally relevant for a sustainable tourism development of the Island. The results show that 93,4% of the surveyed professionals consider the policy of increasing the number of flights and boats to Chios as a relevant or totally relevant measure. Measures such as promoting help for refugees, by implementing an agreement with flight companies of free luggage are not considered relevant for the Island's sustainable tourism development (40% answered not relevant). And 20% agree that the restriction of the use of public space by tourism businesses on the archaeological protected areas and beach zones are irrelevant or totally irrelevant as well as to prohibit the construction of accommodations, restaurants and cafes and other tourist facilities at a minimum distance from the coast. This last information shows that surveyed stakeholders are not worried about the potential future negative impacts that tourism can cause to the coastal environment and heritage, without proper management or in case it becomes massive. This idea can be reinforced with the answers given in Figure 51, where 53,4% of the tourism professionals strongly disagree/disagree to the argument "Tourism in Chios can create a fake culture sense based on non-traditional practices as a strategy to attract visitors and promote the loss of cultural authenticity" and the same percentage of people also strongly disagree/disagree to the statement "The future growth of Chios' tourism may lead to visual, noise, air and water pollution, degradation of geological elements of nature and loss of green spaces". Even though this is not a strong problem of the Island at the moment to give priority to it, implies to consider measures that already reinforce the need to avoid future negative impacts on the environment and its culture.

Other important result from the questionnaire is that respondents consider create an observatory of tourism is particularly relevant (results show an average of 4,13) at the same time as 83% considered that the agreement and cooperation between stakeholders in the development of a strategical plan is the most challenge to address in Chios for a sustainable tourism development (Question 4.3. of the questionnaire, in appendix). However, 63% of the respondents recognize that cooperation among stakeholders may improve the tourism offer and their own businesses (Figure 54):

Figure 54. Perceptions about public participation in tourism

Why should/should not you be involved in discussions about tourism in Chios?	N	Percentage (%)
Cooperation among stakeholders improves the tourism offer products of Chios and, consequently, my own business	5	63%
Stakeholders are not educated enough to participate	1	13%
It is a vehicle of learning and improvement about the products the stakeholders promote	1	13%
I am an inhabitant, so I have the right to participate	1	13%
Total	8	100%

Source: Author Elaboration

To support the implementation of the proposed actions and for the accomplishment of the proposal plan, the Island provides a restricted financial budget. Either a budget of 50.000€ up to 80.000€ per year or 750.000€ for three years. As this idealistic proposed action plan for Chios would carry money investment and human resources the Municipality does not provide, a second option was thought: a scale of priority actions, according to the tourism professionals' opinion (Figure 55). So, taking into consideration Figure 53 and the answers given as "Relevant/Totally relevant", a scale of colors was designed:




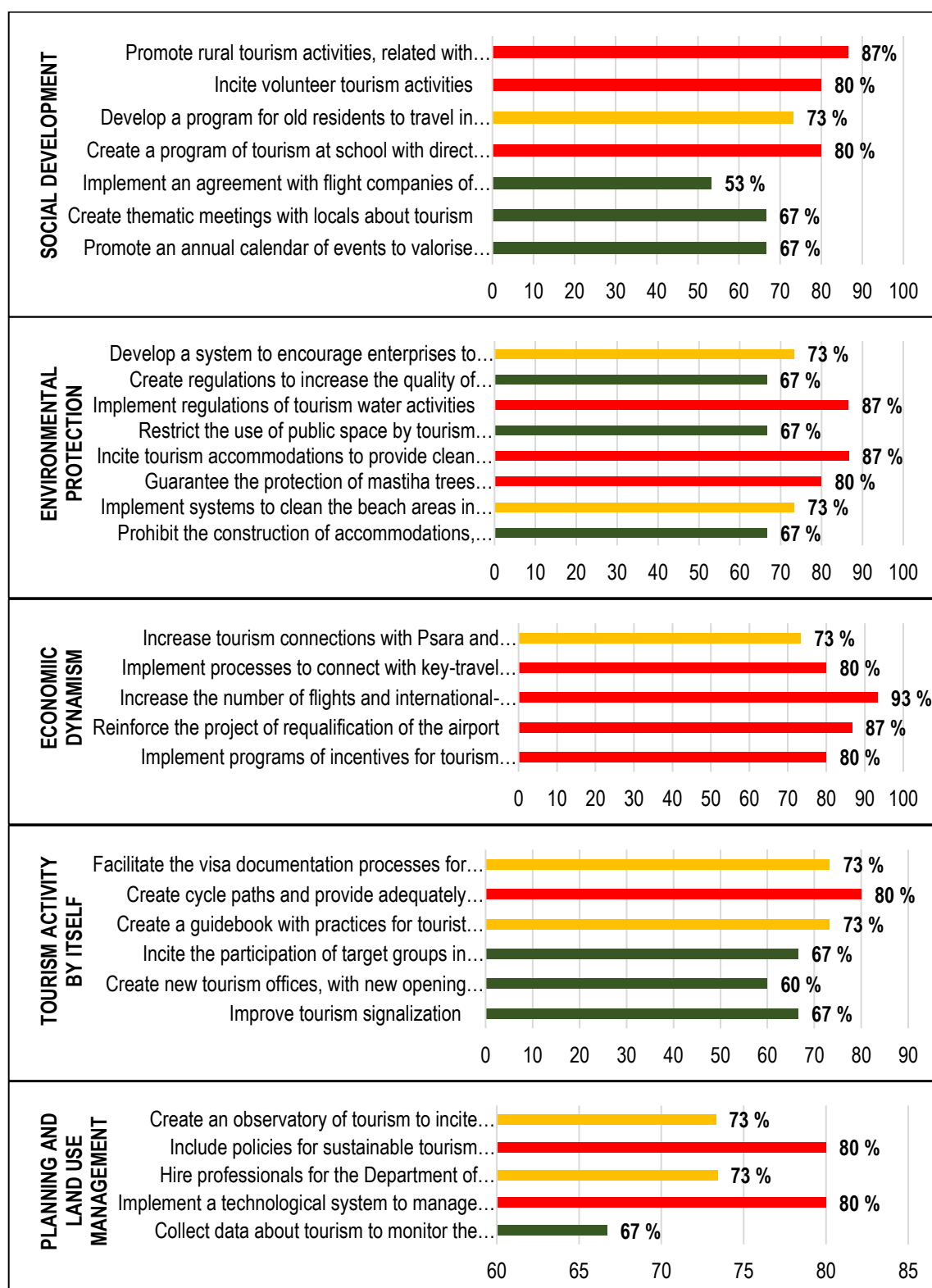
Answers with >80% of relevance	Actions very urgent to apply	
Answers with 70% up to 79% of relevance	Actions urgent to apply	
Answers with <69% of relevance	Actions not urgent to apply	

Figure 55 shows answers with red, yellow and green color, divided in thematic areas and with approximately percentage values, to facilitate the interpretation. The red color answers are registered with a relevance of 80% or more and represents the actions which the local Municipality must apply with urgency for a sustainable tourism development of the Island. Additionally, answers with 70% up to 79% of relevance are the type of answers with are urgent to apply (visible with yellow color). Finally, the green color, representing the answers till 69%, being considered the non- urgent actions, by the tourism professionals of Chios.

Actions such as promote rural tourism activities; incite volunteer tourism activities; create a program of tourism at school; implement regulations of tourism water activities; incite tourism accommodations to provide sustainable consumption systems; guarantee *mastiha* protection; implement processes to connect with media; increase number of flights and boats; requalification of the airport; implementation of incentives for tourism businesses; create cycle paths and better bus stops; include policies for sustainable tourism development in the land use plan and implement a system to manage number of visitors (visible on the graphic with red color) are the urgent actions to be applied for a sustainable tourism development of the Greek Island of Chios, according to the surveyed tourism professionals.

The graphic also shows that actions concerning economic dynamism goal are the ones considered by respondents as the most urgent to apply (this graphic shows four actions with red color, one with yellow color and there is no green color- actions registered).

Figure 55. Scale of priority actions, according to tourism professionals' opinion, for Chios' sustainable tourism development



Source: Author Elaboration

4.5. PROCESS OF MONITORING AND INDICATORS COLLECTION

In order to monitor the proposed Plan, thirty-one themes and core-indicators for statistical data collection were drafted for a future monitoring scheme (Figure 56).

Figure 56. Themes and core indicators to be collected for a sustainable tourism development strategy for Chios' Island

a) SOCIAL AND CULTURAL DEVELOPMENT

- 1) Level of satisfaction of local community about tourism
- 2) Opinion of local community about the future of tourism
- 3) Quantity of residents which uses tourism infrastructures, services and facilities

b) ENVIRONMENTAL PROTECTION

- 4) Quality of the beach waters
- 5) Quality of the consumable water
- 6) Quantity of tourist businesses in public space
- 7) Quantity of waste produced attributed to tourists
- 8) Number of hotels and tourist accommodations in coast areas
- 9) Number of hotels and tourism accommodations per regions
- 10) Number of tourist businesses with certification labels
- 11) Number of protected natural parks

c) ECONOMIC DEVELOPMENT

- 12) Number of workers at the tourism sector
- 13) Weight of importance of tourism in the economy
- 14) Weight of public investment in the tourism sector
- 15) Weight of private investment in the tourism sector
- 16) Density of tourist demand
- 17) Tourism expenses
- 18) Rate of occupancy in tourist accommodations

d) INSTITUTIONAL

- 19) Strategies implemented for sustainable development
- 20) Plans and programs implemented for tourism development
- 21) Number of employers working at DMO's
- 22) Regulations concerning climate change

e) TOURISM ACTIVITY

- 23) Rate of tourist satisfaction
- 24) Fidelity of the tourist
- 25) Tourism offer segments
- 26) Seasonality of tourist demand
- 27) Profile of the tourist
- 28) Number of tourist in high season
- 29) Average length of stay
- 30) Distribution of tourist demand for segments
- 31) Percentage of tourist facilities opened during all year

Source: Author Elaboration

(World Tourism Organization, 2004), (DREM, 2006), (United Nations, 2007)

At first, it is vital to acquire knowledge from the local community (Indicators 1, 2 and 3) to measure the impact of tourism through the eyes of locals, to understand the positive and the negative reaction and to take actions to enforce their perceptions or raise awareness on needed topics. The same happen with the need to collect the tourist point of view (Indicators 23 and 24).

Regarding environmental aspects, it would be important to have the number of hotels and accommodations per regions (Indicator 9) to measure the concentration of tourism businesses and guarantee a more reasonable distribution of tourists in the Island, avoiding massive concentration in certain areas. In coastal areas (Indicator 8), it would also be necessary to quantify the pressure in order to protect the coast from urbanization.

In the process of selecting such indicators, it was thought about the quality of the swimmable and consumable waters to guarantee safety to the visitor as well to locals (Indicators 4 and 5). The water is usually a problem in Islands and especially in Chios' Island, where the water from the tap is not drinkable and where citizens buy constantly plastic water bottles to their home.

The protection of the public space, such as beach areas, can be evaluated by understanding the number of coffees, restaurants and other tourism businesses occupying it (Indicator 6). This indicator intends to avoid massive concentrations and contribute for the goal of "Sustainable cities" of UN 2030 Agenda.

From an institutional point of view, related with planning instruments, it would be important to measure the concern the territory has about climate change and sustainable development (Indicator 19, 20, 21 and 22) and the importance of tourism in the economy of the Island (Indicators 12, 13, 14 and 15).

Finally, attention need to be given to the tourism activity by itself: the profile of the tourist, its origin country, age and activities (Indicator 27), length of stay (Indicator 29) and the numbers of tourists during the high season (Indicator 28) and the seasonality indicator (26).

The collection of such data would be vital to develop a scientific analyse and better perceive the current situation of the Island in order to plan it towards a sustainable tourism development.

5. CONCLUSIONS

5.1. MAIN REFLECTIONS

This thesis discussed the global environmental changes we are dealing with and the consequent potential natural catastrophic disasters of the future. The scientific literature proves that the human action is the main driver of such a problematic, since Industrial Revolution and because of our current options of living (e.g. strong dependence on fossil fuels, weak land use management and planning, unsustainable waste generation and exaggerated food consumption), visible on Part I of the Theoretical Chapter. In this way, it is crucial to recognize our responsibility in the causes but also in driving future changes. The establishment of the sustainable development concept and the 17 Goals of the UN 2030 Agenda emerged to help to reinforce the idea of saving and managing the planet resources. Taking into consideration the UN Agenda, in our daily-lives, we have the power to change our behaviour, by adopting more sustainable choices in our consumption activities.

Sustainable development was also spread into other sectors such as tourism. Part II of the thesis focused on the thematic of tourism, the emancipation of sustainable tourism development concept and on the recognition of the concept as a state of tourism or a vehicle to achieve sustainability, considered different from tourism segments. Tourism is considered as a sector of the economy, contributing to income generation and has been growing faster in the recent years. It has several positive social, cultural, economic as well as environmental impacts on the territories by, for instance, regenerating buildings, protecting natural resources and improving community self-esteem but also negative ones by contributing to overcrowding and property speculation issues, to a fake culture sense, to strong green gas emissions and, consequently, to the global environmental changes societies are living.

This Dissertation also called the attention about the complexity of planning towards a sustainable tourism development and applying certain political actions on destinations, mainly because it requires a strong state intervention and the involvement of various stakeholders (tourists, tourism professionals, governments, residents, etc) and even to those indirectly included in the tourism value-chain. It shows that we all have the power to change behaviours, when visiting a destination and change our actions into green behaviours. Tour operators can change their behaviour and start providing more authentic tourism experiences together with locals, by promoting volunteer tourism and agriculture tourism in rural areas, for example. And tourism accommodations should adapt low consumable energy in their facilities and promote reduction and recycling actions. For being powerful bodies, governments have an even more important role to influence the change towards these sustainable behaviours, because they have the tools and instruments. They can build inclusive

and participatory strategies, by analysing the territory, building a vision, defining strategical goals and actions, monitoring and collecting indicators continuously.

With the sustainable tourism theoretical model's analysis, it was possible to reinforce that tourism planning is a complex puzzling system and that efficient solutions are needed for tourism policy-makers to apply at destinations. As such, a framework of general policy actions divided in key areas of intervention was proposed in this thesis. Even though, there is no one-size-fits-all and all destinations must be analysed particularly. Section 3.4.3. summarized main concerns and actions that can contribute to the sustainable tourism development of destinations and help tourism decision-makers to take better actions and apply, in practice, the concept of sustainable tourism development. The visit to *Turismo de Portugal* and the informal conversations with the professionals served as an inspiration to draw the planning framework. Experts in the field of tourism showed which kind of measures have been applied in Portugal for a sustainable tourism development (for instance, the students from level 5 of the tourism course, are obliged to attend a subject on sustainability in tourism.). This is an example of how Portugal as a destination is moving towards a sustainable direction, through the implementation of actions concerning communities' awareness on sustainable development

Using Chios' Island as a case study and taking into consideration the lack of guidelines and examples of implemented strategies for sustainable tourism development, the goal of this Dissertation was to reflect on how tourism can contribute to or prevent actions that erode sustainable development trajectories and contribute with a propose policy/planning framework, taking in consideration the 17th Sustainable Development Goals of the UN Agenda 2030. To accomplish such main goal, basic goals were defined at the beginning such as: 1) discuss the concept of sustainable development and analyse the United Nations Agenda for Sustainable Development and its 17 Goals; 2) understand and outline the positive and negative impacts of tourism on territories; 3) discuss the Sustainable Tourism Development concept; 4) perceive the importance of tourism planning models for a sustainable tourism development; 5) structure the needed tools to plan sustainable tourism destinations; 6) analyse Chios' context (supply and demand), with the input of local stakeholders and 6) contribute with a proposal to plan and take actions for sustainable tourism development of Chios' Island. It is possible to confirm that such goals were accomplished, visible on the sections of this Dissertation.

The empirical chapter intended to demonstrate the potential of the territory as a possible sustainable tourism development destination, through a draft of a strategy, with a SWOT analysis, vision and action plan. In Islands, tourism impacts can be irreversible. Islands are characterized typically as vulnerable territories, difficult to respond to the Sustainable Development Agenda and a reason why it is important to plan and manage the destination towards a sustainable tourism development. However, sustainable tourism development strategies are still a major challenge for less developed regions and localities, especially in European areas affected with the financial and refugee crisis as Greece. Nevertheless, this framework can be a helpful contribution for future

stages of tourism development of the Greek Island of Chios or an inspiration for small steps to be taken by local decision-makers at the present.

Results show that the Greek Island of Chios has a diverse touristic potential from the Historical, Cultural and Archaeological Tourism to Nature and Mountains Tourism. It is an Island with a vast production of *mastiha*, citrus fruits and other consumable products from where the tourists can also be involved. On the other hand, it faces several challenges, to become a sustainable tourism destination: a small capacity airport, deficiency in infrastructure and facilities supporting the sector, weak public participation in tourism related decision-making processes and a lack of shared vision and strategy for the sector. Besides, it was possible to access the mentality of various local supply agents that are still focused on the sea, sun and sand type of tourism and resist to cooperate and innovate.

In relation to such results, a vision concerning to the three pillars of sustainability and a pillar for tourism activity development was proposed. Chios should apply actions to protect the local natural resources, by regulating tourism activities and to manage the impacts that tourism creates or can create in the future. It should also involve local community and other stakeholders in decision-making tourism processes, incite their cooperation, respond to their needs and protect the cultural heritage and territory traditions. For the Island's economic development, the responsible DMO's should promote attraction and worldwide recognition. In result of that, the Island would have new job opportunities, would increase competitiveness and combat seasonality. And the tourism experience would be improved by providing an authentic experience for visitors, by contributing for a unique tourism experience of tourists and locals and increase, in this way, fidelity.

The framework of action proposals for Chios followed the theoretical framework proposed in part 3.4.3. In this way, five main areas of intervention were selected: 1) Environmental Protection; 2) Social and Cultural Development; 3) Economic Dynamism; 4) Tourism planning and management; 5) Tourism activity Development. With the appliance of such actions, Chios would improve the tourism experience (by applying, for instance, the action 5.1. about the improvement of tourism signalization); it would increase satisfaction and fidelity to the destination; it would provide better health security conditions (by applying the action 1.8. about creating regulations to increase the quality of water consumption); it would raise the well-being of the local community and protect natural resources and cultural heritage. And, consequently, an economic growth of the territory.

Section 4.3.1. and Figure 48 allowed to compare the proposal actions for Chios' sustainable tourism development to the UN SDGs. This is considered the apogee of this final work. From that, it is possible to conclude that most of the proposal actions matches with more than one goal of the UN Agenda. As an example, action 3.1. (creating incentives for local companies, tour agents or hotels to grow in rural areas) was selected to match with the Goal 1, for having an impact in combating poverty and empowering rural communities.

However, it also has a strong impact on the economy growth of the Island, so it could match with the goal number 8 of the UN Agenda. Shortly, the proposal actions for Chios, if applied, would have successful positive impacts on the sustainable development of this Island's community.

A questionnaire was applied in order to perceive the stakeholder's behaviours and attitudes towards the proposed actions for the Island's tourism development and for the sustainable development concept by itself. Responses from Chios' tourism professionals showed that the expansion of the airport is considered crucial for the Island's sustainable tourism development, as well as the growth on the number of flight and boat trips. They recognize that the Island is seasonal and uncompetitive and that participation in decision-making processes can help to improve the Island's product and their own businesses, but it is also an enormous challenge for political-decision makers.

Results also shows that 20% of the respondents agree that the restriction to use public spaces by tourism businesses on the archaeological protected areas and beach zones are irrelevant or totally irrelevant as well as the need to prohibit the construction of accommodations, restaurants and cafes and other tourist facilities at a minimum distance from the coast. This last information shows that respondents are not worried about the possible future impacts that tourism can cause to the environment and heritage around the coast. This idea can be reinforced by the 53,4% of tourism professionals that disagree or strongly disagree with the argument that "Tourism in Chios can create a fake culture sense based on non-traditional practices as a strategy to attract visitors and promote the loss of cultural authenticity" and to the argument "The future growth of Chios' tourism may lead to visual, noise, air and water pollution, degradation of geological elements of nature and loss of green spaces". Even though this is not a strong current problem of the Island to give priority to it, it can happen if the Island builds a strong marketing plan labelled as a sustainable tourism destination and with low-cost flight companies agreement. In this sense, it is crucial for planners to prevent situations as these.

During the questionnaires' analysis, it was possible to understand that some answers could be giving considered a wrong order of the Linkert scale. As an example, tour operators who work with tourism activities on the Island considered answers as 1-Totally irrelevant or 2- Irrelevant to the questions related with development of such activities. This situation probably influenced on the results showed on this final work.

Chios can apply measures to develop towards the three pillars of sustainable development and provide a better and unique experience to tourists who would visit the destination, but it would also provide better conditions of living for local community. Furthermore, the appliance of the proposed strategy could be a way of promoting the Island, in order to become competitive and recognized as an authentic sustainable tourism development destination, in the border of Europe.

In short, for future sustainable tourism development planning, it is crucial for tourism policy-makers to build an inclusive and participatory strategy; collect scientific and statistical data continuously about the destination; implement questionnaires; develop researches and studies; visit tourism facilities; consult people directly and involve them into the process of decision-making, even those indirectly connected with tourism. Planners also need to expand their approach and adopt a more holistic one, by taking into consideration various economic sectors and areas of intervention. This will reduce negative impacts of tourism such as property speculation, by analysing the accommodation sector of the territory, the needs of local community and at the same time, the tourism demand paradigm. Despite the difficulty of applying such ideas in practice for the quantity of people involved, for the time spent and for the money investment, tourism destinations would benefit from the appliance of a strategy and develop towards a more sustainable future. It is critical to do a frequent analysis of the territory, through time, concerning the appearance of new external/internal factors and adapt it, towards a sustainable tourism development.

To finish, sustainable tourism development is a complex concept to apply in practice and the interaction between environmental, social and economic pillars gives origin to behaviours and patterns which are not easy to distinguish. Actions such as increase the number of flights and boats, in Chios, will improve the economic point of view but, and as discussed before, transport sector is a contributor to the green gas emissions and to the global environmental change. In this sense, such action has a positive impact on the economy but harms the environment. However, if the number of flights and boats will not increase in Chios, the destination will not evolve (because there is no tourism without travel), and the number of visitors will be kept as low as it is. So, tourism policy-makers must understand such controversy and adopt an approach of acting towards a sustainable tourism development, instead of assuming a territory as a sustainable tourism destination. The destination will always have to fight in that direction, because to accomplishing it in its totality is complex, for the various actors involve, their ways of thinking and for their own interpretation of the concept. Labelling a destination as “sustainable tourism destination” can help in the process of creating awareness on local stakeholders to fight in that direction and helps to increase competitiveness of destinations but does not guarantee an acquired status for the future. It is continuous process planners must keep fighting for.

5.2. LIMITATIONS OF THE DISSERTATION

The practical chapter of the research based the diagnosis of the Island on a qualitative analysis of information, through informal conversations to tourism stakeholders and visits to the places or direct observations, possible because of the internship and presence in Chios for three months. It allowed to build a realistic diagnose of the Island's tourism, by developing fieldwork observations and conversations to stakeholders, which many tourism policy-makers do not do. However, the need to reinforce a local statistical data monitoring system is imperative, in order to better perceive the state of the destination and apply future actions.

It could also be relevant to consult official documents such as laws, plans, programmes, applied at a local and national level for the proposed actions. The difficulty in perceiving the Greek Language and the short period of time of the internship did not allow this step of the research to go further. Also, the fact that many tour operators were not present in Chios during the period of the research, did not allow a bigger number of people involved. Many of them only come to the Island during summer season, where tourism in the Island achieves its maximum. During the year, stakeholders have other businesses in the country and some of them already started to operate in other Islands. Also, despite the efforts made to have answers from the 99 surveyed tourism professionals (15%), the low number of answers did not allow to have a big number of people involved in the process to perceive their opinion. The fact that the questionnaire was lunched in English could have an influence on the number of answers as it was also contacted people from the food and transport sector, for example.

So, involving professionals and workers into this process it is hard but must be the way of applying any plan for tourism, especially a strategy for sustainable tourism development. To hear their opinions, communicate and build a future for the tourism of the Island with them should be the direction to guarantee stability and satisfaction of both locals and tourists. These can be accomplished by establishing participatory committees, applying questionnaires or creating periodic meetings.

5.3. RECOMMENDATIONS FOR FUTURE RESEARCH

For future Plan implementation, the Municipality can find inspiration on Figure 55, visible on section 4.4. The graphic represents the actions which are considered as urgent or not urgent to be applied, according to the respondents, which can be seen as a guideline for adopting a sustainable tourism development approach in Chios. However, actions such as promote rural tourism activities; incite volunteer tourism activities; create a program of tourism at school; implement regulations of tourism water activities; incite tourism accommodations to provide sustainable consumption systems; guarantee *mastiha* protection; implement processes to connect with media; increase number of flights and boats; requalification of the airport; implementation of incentives for tourism businesses; create cycle paths and better bus stops; include policies for sustainable tourism development in the land use plan and implement a system to manage number of visitors are the measures which must be applied with urgency, according to the surveyed tourism professionals.

According to what has been described, it is crucial to start by hiring professionals for the Municipality to work on the development of the Plan, by collecting and providing statistical and scientific data through questionnaires appliance, official documents research and consultation processes, in order to apply a participative strategy for sustainable tourism development. Other recommendation is to collaborate with the University of the Aegean and incite the elaboration of studies related to tourism and sustainable development. They are crucial actors and they have innovative tools and information with important methodologies and procedures.

As *mastiha* is a competitive advantage of the Island and seen by the surveyed tourism professionals as a resource to take advantage of, for future Destination Management Plans' appliance, tourism policy-makers should design marketing and branding policies in this direction, as a sustainable territory which promotes *mastiha* at the same time it protects the other natural resources and reinforces a direction towards a sustainable tourism development.

For future researches, it would be critical to develop a study focus the attention on the tourism business network in Chios' Island. It is important to select all the actors involved directly in the tourism value chain and understand their relationship concerning tourism sector. Perceive if there are partnerships in different businesses of the Island and incite the actors in that direction can be beneficial to move the Island towards a sustainable development.

It would be also vital to collect the residents' opinion concerning the tourism sector perception or about the tourism future development of the Island. This perception can be measured by applying the SUS-TAS system as many researches have been using to measure residents' attitude towards tourism. These are the kind of examples that can be critical to improve this work or develop even better researches about Chios' Island or other destinations with the potential to become sustainable tourism destinations.

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APPENDIX

A – Questionnaire for Chios' tourism professionals

B – Photos from the diagnosis analysis of the Island

A – QUESTIONNAIRE FOR CHIOS' TOURISM PROFESSIONALS

PLANNING AND DEVELOPING SUSTAINABLE TOURISM DESTINATIONS: THE CASE OF CHIOS' ISLAND

Thank you for agreeing to participate in the following questionnaire!

The questionnaire results from an Erasmus+ Program at the Municipality of Chios, between September and December 2017 that was part of a Master's Degree (MSc) in Urban and Regional Planning of the Department of Social, Political and Territorial Sciences of the University of Aveiro, Portugal. Aiming to contribute to the development of proposals for the Island tourism development, the Final project of the MSc is entitled "Planning and developing sustainable tourism destinations: The case of Chios' Island".

The goal is to access the perceptions of the local tourism professionals in Chios about the tourism products and possible actions to be applied for the Island's sustainable tourism development. So, your collaboration is very important as an expert in the field of tourism.

The questionnaire takes around 10 minutes of your attention. It is anonymous and, the results will be treated in an aggregated and confidential manner and will be only used for the research purpose.

In case of any doubt, please contact the following e-mail: vanialopes95@ua.pt. If there is anyone you might think it would be interested in respond to this questionnaire, do not hesitate to contact the same e-mail.

Thank you.

RESEARCH TEAM

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PART I – PERSONAL INFORMATION

1. Please, choose the answer with an X

1.1. Gender:

Male	<input type="checkbox"/>
Female	<input type="checkbox"/>

1.2. Age:

<18	<input type="checkbox"/>
18-24	<input type="checkbox"/>
25-44	<input type="checkbox"/>
45-64	<input type="checkbox"/>
>65	<input type="checkbox"/>

1.3. Level of Qualification:

Basic School	<input type="checkbox"/>
Medium School	<input type="checkbox"/>
High School	<input type="checkbox"/>
Bachelor Degree	<input type="checkbox"/>
Master Degree	<input type="checkbox"/>
Doctoral Degree	<input type="checkbox"/>
Other	<input type="checkbox"/>

1.4. In which activity of the tourism sector do you work?

Transports* ¹	<input type="checkbox"/>
Accommodation* ²	<input type="checkbox"/>
Restaurants* ³	<input type="checkbox"/>
Tourism Management and Planning* ⁴	<input type="checkbox"/>
Leisure and sportive activities* ⁵	<input type="checkbox"/>
Cultural services* ⁶	<input type="checkbox"/>
Rental services* ⁷	<input type="checkbox"/>
Travel agencies	<input type="checkbox"/>
Other	<input type="checkbox"/>

*1- Bus companies, airport, boats transportation; *2-Hotels associations, hotels, hostel, apart-hotels and similar accommodations *3 – Restaurants, bars and cafes; *4 – Departments of tourism, tourism office, university; *5 – Guided tours, activities in the water, mountain activities, radical activities; *6 – Museum, archeologic assets, cultural institutions; *7 – Scooters, bikes, bicycles, cars and similar vehicles

1.4.1. Please specify your main occupation (ex. Tour operator, hotel manager, receptionist, tour guide, etc.)

PART II – TOURISM PRODUCTS IN CHIOS

The aim of this section is to perceive the tourism professional's perspective about tourism products in Chios. Please consider the scale as 1 as the most irrelevant and 5 the most relevant.

2.1. What is your opinion about the elements of the Island that tourists appreciate the most?

1-Totally irrelevant; 2- Irrelevant; 3- Not irrelevant or relevant; 4- Relevant; 5- Totally relevant

	1	2	3	4	5
Museums					
Beaches					
Mountains and hiking trails					
Cathedrals, Monasteries and Churches					
Medieval villages (<i>Mesta, Pirgi, Olimpi, Avgonyma</i> , etc)					
Gastronomic products (<i>souma</i> liquor, <i>mastelo</i> cheese, <i>mastiha</i> , chios craft beer, citrus fruits)					
Events and immaterial heritage					
Other:					
—					

2.2. What is your opinion about the level of satisfaction of tourists on tourism activities in Chios?

1-Very poor; 2-Poor; 3-Satisfactory; 4-Good; 5-Excellent

	1	2	3	4	5
Accommodation (hotels, resorts)					
Public transport services (bus, taxi)					
Rental Services (motorcycles, bicycles, bikes and cars)					
Restaurants, bars, cafes					
Security and safety					
Friendliness of the local community					
Infrastructures and public spaces					
Cleanliness of beaches					
General satisfaction of the Island					
Other:					

PART III – TOURISM PLANNING AND MANAGEMENT IN CHIOS _____

This part intends to assess the opinion of tourism professionals regarding the planning and management processes of Chios tourism.

3.1. From 1 (totally irrelevant) to 5 (totally relevant), what could the relevance of public participation in planning for tourism in Chios?

1-Totally irrelevant; 2- Irrelevant; 3- Not irrelevant or relevant; 4- Relevant; 5- Totally relevant

	1	2	3	4	5
Tourist operators' participation in meetings and discussions about tourism in Chios can be helpful for the development of the destination and for designated officials to take better decisions about the destination					
Residents' participation in meetings and discussions about tourism in Chios can be helpful for the development of the destination and for designated officials to take better decisions about the destination					

3.2. Would you like to be involved in discussions about the future of tourism in Chios?

Yes	<input type="checkbox"/>
No	<input type="checkbox"/>

3.3. Why should/should not you be involved in discussions about tourism in Chios?

PART IV – SUSTAINABLE TOURISM DEVELOPMENT _____

This part aims to understand tourism professionals' perceptions on sustainable development and sustainable tourism development concepts.

4.1. Which sectors should be considered for a sustainable tourism development in Chios? (You may choose multiple options)

Economy	<input type="checkbox"/>
Society	<input type="checkbox"/>
Culture	<input type="checkbox"/>
Institutions	<input type="checkbox"/>
Environment	<input type="checkbox"/>
Other: _____	<input type="checkbox"/>

4.2. Please rate the extent to which you agree or disagree with the following statements about the impacts of tourism in Chios.

1- Strongly Disagree; 2- Disagree; 3- Do not disagree or agree; 4- Agree; 5- Strongly agree

	1	2	3	4	5
Tourism in Chios is seasonal (mostly occurs during summer)					
Chios is an uncompetitive destination (Chios is not recognized worldwide as a touristic destination)					
In the future, without proper manage, tourism in Chios can contribute to the destruction of fauna and flora and degradation of monuments					
The development of tourism in Chios promotes cultural exchange which benefits rural areas and low populated villages					
The development of tourism is a way to improve the Island's appearance and to requalify degraded buildings and monuments					
To serve the tourists, the Island must improve public transports and public utilities infrastructures, which will benefit also locals					
It is important for the tourism sector in Chios to support the use of fossil fuels for its activities					
Tourism in Chios should not modify the social structure of the Island (its authenticity, natural resources, immaterial heritages)					
Improvement of tourism in Chios would increase the connection with European countries and the rest of the world, combating the self-exclusion state of living and developing self-esteem of local community					
Tourism in Chios can create a fake culture sense based on non-traditional practices as a strategy to attract visitors and promote the loss of cultural authenticity					
Tourism in Chios is accessible for people with less physical abilities (people using wheelchair, blind or deaf people)					
The future growth of Chios' tourism may lead to visual, noise, air and water pollution, degradation of geological elements of nature and loss of green spaces					

- 4.3. What do you think is the most important challenge to address in Chios for a sustainable tourism development?
-

PART V – MEASURES FOR TOURISM IN CHIOS _____

The final part intends to assess tourism professional's opinion about possible actions to implement in Chios for a sustainable tourism development.

- 5.1. Select by level of priority the following measures for Chios' sustainable tourism development

1-Totally irrelevant; 2- Irrelevant; 3- Not irrelevant or relevant; 4- Relevant; 5- Totally relevant

5.1.1. Social Development

	1	2	3	4	5
Promote an annual calendar of events to valorise local culture and resources (ex: fairs of local products with artisans and farmers)					
Create thematic meetings with locals about tourism					
Implement an agreement with flight companies of free luggage to carry help for refugees					
Create a program of tourism at school with direct access to the University					
Develop a program for old residents to travel in the Island during summer					
Incite volunteer tourism activities					
Promote rural tourism activities, related with ecotourism, agritourism and other alternative segments					

5.1.2. Environmental Protection

	1	2	3	4	5
Prohibit the construction of accommodations, restaurants and cafes as well as other tourist facilities at a minimum distance from the coast					
Implement systems to clean the beach areas in the whole year					
Guarantee the protection of <i>mastiha</i> trees cultivation					
Incite tourism accommodations to provide clean and efficient energy and water consumption systems and adopt reduce, re-use and recycle policies in their facilities					
Restrict the use of public space by tourism businesses on the archaeological protected areas and beach zones					
Implement regulations of tourism water activities					
Create regulations to increase the quality of water consumption					
Develop a system to encourage enterprises to report and reduce their greenhouse gas emissions					

5.1.3. Economic Dynamism

	1	2	3	4	5
Implement programs of incentives for tourism businesses (local companies, tour agents, tourism accommodations, etc.) to develop in rural areas of the Island					
Reinforce the project of requalification of the airport					
Increase the number of flights and international-charter flights as well as international trips by boat					
Implement processes to connect with key-travel agencies and media					
Increase tourism connections with <i>Psara</i> and <i>Inousses</i> Islands					

5.1.4. Tourism activity by itself

	1	2	3	4	5
Improve tourism signalization					
Create new tourism offices, with new opening hours					
Incite the participation of target groups in international and national fairs of Tourism					
Create a guidebook with practices for tourist behaviour, tourism professionals and locals about climate change and heritage preservation					
Create cycle paths and provide adequately signalized bus stations					
Facilitate the visa documentation processes for Turks to visit Chios during all year					

5.1.5. Planning and Land use management

	1	2	3	4	5
Collect data about tourism to monitor the cultural, social, environmental and economic impacts and trends and local's satisfaction about tourism					
Implement a technological system to manage the numbers of visitors coming to the Island					
Hire professionals for the Department of Tourism of the Municipality of Chios to coordination of tourism, to develop a plan for tourism in the Island and to monitor the process					
Include policies for sustainable tourism development in the Municipality Land Plan: construction and demolition of sites, illegal trade of historical crafts					
Create an observatory of tourism to incite debates, conferences, seminars and focus-groups with various professionals of Chios					

Others: _____

5.2. In your opinion, which of the announced measures can contribute most for the future of Chios as a sustainable tourism destination?

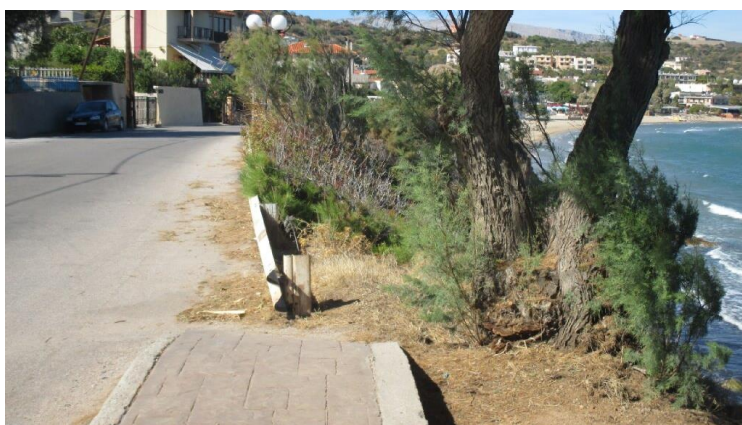
Thank you for your contribution to this study!

B – PHOTOS FROM THE DIAGNOSIS ANALYSIS OF THE ISLAND

Pedestrian Trail of *Fa-Lithi*: Lack of illumination



Sidewalk in front of the Aegean Dream Hotel: Deficiency in infrastructures



Turkish Bath in the historical centre of Chios (Castle Zone): Heritage degradation



Agiasmata Thermal Baths Facility: Need for building upgrading, accessibilities for disable people and swimming pool construction



Refugee life jacket and other remains left on the beach: Impact of refugee flows in a tourism and environmental protection perspective

